ILLINOIS STATE BEE-KEEPERS' ASSOCIATION

REPORT

ILLINOIS STATE BEE-KEEPERS.

[From the Illinois State Journal.]

The Apiarists of Illinois are to be congratulated on the prompt publication of the annual report of the Illinois State Bee-Keepers' Association for 1892. The report, makes an attractive neatly printed volume of nearly two hundred pages, and the contents reflect credit upon the practical experience of the editor and the members of the association.

Their report contains information that should be in the hands of every bee-keeper in the State, as follows :

Constitution and by-laws, act of last legislature in favor of the Illinois State Bee-Keepers' Association, articles of incorporation, roll of members, minutes of all the meetings since organized and the affiliation of North Western with minutes of its proceedings, discussion of all the important subjects relating to apiculture, by prominent Apiarists, all the acts of the Bee-Keepers' Union, decisions of the supreme court, in cases against bee-keepers'; a short work on bee keeping which if followed is comprehensive enough for any amateur.

Any person wishing to become a member of the Illinois State Bee-Keepers' Association and thereby receive the benefits to which members are entitled as well as the next annual report can do so by sending name and address and membership fee of $1 00 to the Secretary JAMES A. STONE, Bradfordton, Ill.

FIRST ANNUAL REPORT

OF THE

ILLINOIS

State Bee-Keepers' Association

ORGANIZED FEB. 26, 1891

AT

SPRINGFIELD, ILLINOIS.

COMPILED BY.
JAMES A. STONE, SECRETARY
BRADFORDTON, ILLINOIS

SPRINGFIELD:
ILLINOIS STATE JOURNAL PRINT,
1892

LETTER OF TRANSMITTAL.

OFFICE OF THE SECRETARY,
BRADFORDTON, ILL., Feb. 25, 1892.

To his Excellency, Joseph W. Fifer, Governor of the State of Illinois:

SIR: I have the honor to transmit herewith the First Annual Report of the Illinois State Bee-Keepers' Association.

Respectfully submitted,

JAMES A. STONE, *Secretary*.

Officers and Members

OF THE

Illinois State Bee-Keepers' Association

FOR 1891

President	P. J. England	Fancy Prairie
Vice-Presidents	1st, Mrs. L. Harrison	Peoria
	2d, C. P. Dadant	Hamilton
	3d, W. T. F. Petty	Pittsfield
	4th, Hon. J. M. Hambaugh	Spring
	5th, Dr. C. C. Miller	Marengo
Secretary	Jas. A. Stone	Bradfordton
Treasurer	A. N. Draper	Upper Alton

FOR 1892

President	Hon. J. M. Hambaugh	Spring
Vice-Presidents	1st, Mrs. L. Harrison	Peoria
	2d, P. J. England	Fancy Prairie
	3d, Dr. C. C. Miller	Marengo
	4th, C. P. Dadant	Hamilton
	5th, S. N. Black	Clayton
Secretary	Jas. A. Stone	Bradfordton
Treasurer	A. N. Draper	Upper Alton

Roll of Members for 1892.

Abbott, E. T., St. Joseph, Mo.
Baldridge, M. M., St. Charles, Ill.
Baldwin, A. Y., DeKalb, Ill.
Barnard, W. D. W., Upper Alton, Ill.
Becker, Chas., Pleasant Plains, Ill.
Benbow, A. E., Upper Alton, Ill.
Black, S. N., Clayton, Ill.
Blecka, Frank, Elgin, Ill.
Boals, M. H., Upper Alton, Ill.
Boals, J. L., Upper Alton, Ill.
Buckley, Dr. J., Upper Alton, Ill.
Buckley, Mrs. M. B., Upper Alton, Ill.
Burnett, R. A., Chicago, Ill.
Cadwallader, D. A., Prairie Du-Rocher, Ill.
Campbell, C. H., Upper Alton, Ill.
Cooper, D. D., Sherman, Ill.
Coppin, Aaron, Wenona, Ill.
Critchfield, J. A., Broadwell, Ill.
Dadant, Chas., Hamilton, Ill.
Dadant, C. P., Hamilton, Ill.
Dintlemann, Belleville, Ill
Draper, A. N., Upper Alton, Ill.
Draper, Mrs. Rachel, Upper Alton, Ill.
Draper, Mrs. Amelia, Upper Alton, Ill.
Draper, Miss Rachel C., Upper Alton, Ill.
Draper, Miss Clara N., Upper Alton, Ill.
Elwell, W. E., Upper Alton, Ill.
England, P. J., Fancy Prairie, Ill.
England, A. J., Fancy Prairie, Ill.
Farrar, E. W., Downer's Grove, Ill.
Fehr, A. G., Belleville, Ill.
Finch, W. J., Jr., Chesterfield, Ill.
First, Rev. H. C., Upper Alton, Ill.
Flanagan, E. F., Belleville, Ill.
Forncrook, J., Watertown, Wis.
Fulmer, W. P., Wheaton, Ill.
Gillham, W. L., Upper Alton, Ill.
Green, J. A, Dayton, Ill.
Hambaugh, Hon. J. M., Spring, Ill.
Harrison, Mrs. L., Peoria, Ill.
Harrison, Lovell, Peoria, Ill.
Hertel, Chas., Freeburg, Ill.
Hilton, Geo. E., Fremont, Mich.
Hubbard, E. S., Oil City, Iowa.
Hubbard, G. K., Ft. Wayne, Ind.
Hubbard, Mrs. G. K., Ft Wayne, Ind.
Hudson, John H., Alton, Ill.
Hutchinson, W. Z., Flint, Mich.
Johnson, Geo. R., Upper Alton, Ill.
Kendrick, Mrs. M. J., UpperAlton, Ill.
Kendrick, Dr. A. A , Upper Alton, Ill.
Kennedy, J. A., Passfield, Ill.
Larrabee, J. H., Agricultural Col. Mich.
Lehne, H. F., Alton, Ill.
Liebrock, Jack, Mascoutah, Ill.
Lemen, Dr E. C., Upper Alton, Ill.
Leverett, C. W., Upper Alton, Ill.
Levis, R. H , Alton, Ill.
Lowe, W. W., Upper Alton, Ill.
Lowe, M. A., Upper Alton, Ill.
Lyman, Hon. J. S., Farmingdale, Ill.
Lyman, W. C., Downer's Grove, Ill.
Malson, M., Upper Alton, Ill.
Mandelbaum, M. H., Chicago, Ill.
Mason, A. B., Auberndale, O.
Mason, Lot, Auburn, Ill.
McReynolds, Robt , Upper Alton, Ill.
Miller, Dr. C. C., Marengo, Ill.
Miller, Peter, Bellville, Ill.
Mills, Col. Chas. F , Springfield, Ill.
Mills, Mrs. H. E., Upper Alton, Ill.
Mills, Miss R. C., Upper Alton, Ill.
Mills, H. E., Upper Alton, Ill.
Murphy, R. R., Garden Plains, Ill.
Nevlin, G., Upper Alton, Ill.
Newman, Thos. G., Chicago, Ill.

Phelps, A., Springfield, Ill.
Poindexter, Geo., Kenny, Ill.
Poppleton, O. O., Hawkes Park, Fla.
Priest, H. C., Alton, Ill.
Redmond, G. W., Paris, Ill.
Rehorst, John, New Hampton, Iowa.
Robbins, Geo. S., Mechanicsburg, Ill.
Root, A. I., Medina, Ohio.
Schirer, I., Petona, Ill.
Scovell, A. T., Upper Alton, Ill.
Seeley, J. S.. Oswego, Ill.
Seeley, Frank, Yorkville, Ill.
Sheiry, Mrs. Ida L., Upper Alton, Ill.
Stainінger, N , Tipton, Iowa.
Stone, Mrs. Jas. A., Bradfordton, Ill.
Stone, Jas. A., Bradfordton, Ill.
Stow, Mrs. N. L., South Evanston, Ill.
Stow, N. L., South Evanston, Ill.
Strong, Miss Zetta, Ottawa, Ill.
Taylor, B., Forestville, Minn.
Tomlinson, D. G., Alton, Ill.
Vance, W. A., Glencoe, Ill.
VanDoren, P. C., Curran, Ill.
Walker, Byron, Capac, Mich.
Wallace, Thos. S., Clayton, Ill.
Wheeler, J. C., Plano, Ill.
Whittlesby, E., Pecatonica, Ill.
Wilson, Miss Emma, Marengo, Ill.
Yerkes, Mrs. S. B., Upper Alton, Ill.
Yocom, Wm., Sherman, Ill.
Yocom, C. E., Sherman, Ill.
Yorkes, Dr. T. P., Upper Alton, Ill.

State of Illinois--Department of State.

Isaac N. Pearson, Secretary of State.

To all to whom these Presents shall come, Greeting:

WHEREAS, A certificate duly signed and acknowledged having been filed in the office of the Secretary of State on the 27th day of February, A. D. 1891, for the organization of the Illinois State Bee-Keepers' Association, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

NOW THEREFORE, I, Isaac N. Pearson, Secretary of State, of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said, The Illinois State Bee-Keepers' Association is a legally organized corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand, and cause to be affixed the great seal of State.

Done at the City of Springfield this 27th day of February, in the year of our Lord, one thousand eight hundred and ninety one, and the Independence of the United States the one hundred and fifteenth.

{ SEAL }

I. N. PEARSON,
Secretary of State.

STATE OF ILLINOIS, } ss.
SANGAMON COUNTY. }

To Isaac N. Pearson, Secretary of State:

We, the undersigned, Perry J. England, Jas. A. Stone and Albert N. Draper, citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and for the purposes of such organization, we hereby state as follows, to-wit:

1. The name of such corporation is, The Illinois State Bee-Keepers' Association.

2. The object for which it is formed is, to promote the general interests of the pursuit of bee-culture.

3. The management of the aforesaid Association shall be vested in a board of three Directors who are to be elected annually.

4. The following persons are hereby selected as the Directors, to control and manage said corporation for the first year of its corporate existence, viz: Perry J. England, Jas. A. Stone and Albert N. Draper.

5. The location is in Springfield, in the County of Sangamon, State of Illinois. [Signed,]

PERRY J. ENGLAND,
JAS. A. STONE,
ALBERT N. DRAPER.

STATE OF ILLINOIS, } ss.
COUNTY OF SANGAMON. }

I, S. Mendenhall, a notary public in and for the county and State aforesaid, do hereby certify that on this 26th day of February, A. D. 1891, personally appeared before me, Perry J. England, James A. Stone and Albert N. Draper, to me personally known to be the same persons who executed the foregoing certificate, and severally acknowledged that they had executed the same for the purposes therein set forth.

In Witness Whereof, I have hereunto set my hand and seal the day and year above written.

S. MENDENHALL,
Notary Public.

[SEAL]

Constitution and By-Laws

..OF THE..

Illinois State Bee-Keepers' Association

CONSTITUTION

ADOPTED FEB. 26, 1891

ARTICLE I—*Name.*

This organization shall be known as the Illinois State Bee-Keepers' Association, and its principal place of business shall be at Springfield, Ill.

ARTICLE II—*Object.*

Its object shall be to promote the general interests of the pursuit of Bee Culture.

ARTICLE III—*Membership.*

SEC. 1. Any person interested in Apiculture may become a member upon the payment to the Secretary of an annual fee of one dollar ($1.00).

SEC. 2. Any persons may become honorary members by receiving a majority vote at any regular meeting.

ARTICLE IV—*Officers.*

SEC. 1. The officers of this Association shall be: President, five Vice-Presidents, Secretary and Treasurer. Their terms of office shall be for one year, or until their successors are elected and qualified.

SEC. 2. The President, Secretary and Treasurer shall constitute the Executive Committee.

SEC. 3. Vacancies in office—by death, resignation or otherwise—shall be filled by the Executive Committee until the next annual meeting.

ARTICLE V—*Amendments.*

This Constitution may be amended at any annual meeting by a two-thirds vote of all the members present—thirty days' notice having been given to each member of the Association.

BY-LAWS

ADOPTED DECEMBER 18, 1891

ARTICLE I.

The officers of this Association shall be elected by ballot and by a majority vote.

ARTICLE II.

It shall be the duty of the President to call and preserve order at all meetings of this Association; to call for all reports of officers and committees; to put to vote all motions regularly seconded, to count the votes at all elections and declare the results; to decide upon all questions of order; and to deliver an address at each annual meeting.

ARTICLE III.

The Vice-Presidents shall be numbered respectively, First, Second, Third, Fourth and Fifth, and it shall be the duty of one of them in his respective order to preside in the absence of the President.

ARTICLE IV.

SEC. 1. It shall be the duty of the Secretary to report all proceedings of the Association, and to record the same, when approved, in the Secretary's book; to conduct all correspondence of the Association, and to file and preserve all papers belonging to the same; to receive the annual dues and pay them over to the Treasurer, taking his receipt for the same; to take and record the name and address of every member of the Association; to cause the Constitution and By-Laws to be printed in appropriate form, and in such quantities as may be directed by the Executive Committee from time to time, and see that each member is provided with a copy thereof; to make out and publish annually, as far as practicable, a statistical table showing the number of colonies owned in the spring and fall, and the amount of honey and wax produced by each member, together with such other information as may be deemed important, or be directed by the Executive Committee; and to give notice of all meetings of the Association in the leading papers of the State and in the bee journals at least four weeks prior to the time of such meeting.

SEC. 2. The Secretary shall be alloweed a reasonable compensation for his services, and to appoint an assistane Secretary if deemed necessary.

ARTICLE V.

It shall be the duty of the Treasurer to take charge of all funds of the Association, and to pay them out upon the order of the Executive Committee, taking a receipt for the same; and to render a report of all receipts and expenditures at each annual meeting.

ARTICLE VI.

It shall be the duty of the Executive Committee to select subjects for discussion and appoint members to deliver addresses or read essays, and to transact all interim business.

ARTICLE VII.

The meetings of the Association shall be, as far as practicable, governed by the following order of business:

Call to order.
Reading minutes of last meeting.
President's address.
Secretary's report.
Treasurer's report.
Reports of committees.
Unfinished business.
Reception of members and collection.
Miscellaneous business.
Election and installation of officers.
Discussion.
Adjournment.

ARTICLE VIII.

These By-Laws may be amended by a two-thirds vote of all the members present at any annual meeting.

C. E. YOCOM,
AARON COPPIN,
GEO. F. ROBBINS,

BEE-KEEPERS' ASSOCIATION.

Section 1 Appropriates, in Aid of the Bee-Keepers Association, the Sum of $500 per Annum.
Sec. 2, How Drawn.

An Act Making an Appropriation in Aid of the Illinois State Bee-Keepers' Association.

WHEREAS, The large and growing industry of bee-keeping in the State of Illinois is worthy of proper encouragement in the General Assembly, and

WHEREAS, The Illinois State Bee-Keepers' Association, an organization composed of the leading Apiarists of the State, is engaged in promoting this industry and desires an appropriation to assist in this work; therefore,

SECTION 1. Be it enacted by the People of the State of Illinois, represented in the General Assembly: That there be and hereby is appropriated for the use of the Illinois State Bee-Keepers' Association, the sum of five hundred dollars ($500) per annum: *Provided*, however, that no portion thereof shall be paid for, or on account of any salary, or emoluments of any officer of said Association, and that said sum be expended by said Illinois Bee-Keepers' Association in the publication of such reports and information pertaining to this industry as will tend to promote the growth and develop the apiarian interest for the years 1891 and 1892.

SECTION 2. That, on the order of the President, countersigned by the Secretary of the Illinois Bee-Keepers' Association, and approved by the Governor, the State Auditor shall draw his warrant annually in favor of the Treasurer of the Illinois Bee-Keepers' Association for the sums herein appropriated.

Approved June 16, 1891.

Formation of the Illinois State Bee-Keepers' Ass'n.

SPRINGFIELD, ILL., Feb. 26, 1891.

The Capitol Bee-Keepers' Association was called to order by President P. J. England.

Previous notice having been given that an effort would be made to form a State Association, and there being present bee-keepers from different parts of the State, by motion, a recess was taken in order to form such an Association.

P. J. England was chosen temporary chairman, and C. E. Yocom temporary secretary. On motion, the Chair appointed Thos. G. Newman, C. P. Dadant and Hon. J. M. Hambaugh a committee on constitution.

Col. Chas. F. Mills addressed the meeting on the needs of a State Association, and stated that it was his opinion that the bee-keepers should have a liberal appropriation for a State Apiarian Exhibit at the World's Columbian Exposition.

A motion to adjourn till 1:30 P. M. prevailed.

AFTERNOON SESSION.

The Committee on Constitution reported a form for same, which, on motion, was read by the Secretary, by sections serially.

Geo. F. Robbins moved to substitute the word *shall* for *may* in the last clause of Section 1, Article III. This led to a very animated discussion, and the motion was lost.

J. A. Stone moved to amend the above named section by striking out the word ladies and all that followed of the same section, which motion led to further discussion, and motion finally prevailed.

Section 2, Article III, relating to a quorum, was, on motion, entirely stricken out.

Mr. Robbins moved to amend Article V by adding the works, "Thirty days' notice having been given to each member." Prevailed.

Thos. G. Newman moved to adopt the Constitution, so amended, as a whole. Which motion prevailed.

See Constitution page 8.

J. A. Stone moved that the Chair appoint a nominating committee of three on permanent organization. Prevailed.

Chair appointed as such committee, Col. Chas. F. Mills, Hon. J. M. Hambaugh, and C. P. Dadant.

Committee retired and in a few minutes returned, submitting the following named persons as candidates for their respective offices:

For President—P. J. England, Fancy Prairie.

For Vice-Presidents—Mrs. L. Harrison, Peoria; C. P. Dadant, Hamilton; W. T. F. Petty, Pittsfield; Hon. J. M. Hambaugh, Spring; Dr. C. C. Miller, Marengo.

Secretary—Jas. A. Stone, Bradfordton.

Treasurer—A. N. Draper, Upper Alton.

Mr. Black moved the adoption of the report of the committee on nominations. The motion prevailed, and the officers as named by the committee, were declared elected for the ensuing year.

Hon. J. M. Hambaugh moved that Mr. Thos. G. Newman, Editor American Bee Journal, of Chicago, be made the first honorary member of the Association. Prevailed.

At this point Col. Chas. F. Mills said, "Mr. Chairman, I want to be the first one to pay my dollar for membership," at the same time suiting his actions to his words, and others followed his example, as follows:

CHARTER MEMBERS.

Col. Chas. F. Mills, Springfield.	Aaron Coppin, Wenona.
Hon. J. M. Hambaugh, Spring.	Geo. F. Robbins, Mechanicsburg.
Hon. J. S. Lyman, Farmingdale.	J. W. Yocom, Williamsville.
C. P. Dadant, Hamilton.	Thos. S. Wallace, Clayton.
Chas. Dadant, Hamilton.	A. J. England, Fancy Prairie.
A. N. Draper, Upper Alton.	P. J. England, Fancy Prairie.
S. N. Black, Clayton.	C. E. Yocom, Sherman.

Jas. A. Stone, Bradfordton.

FIRST HONORARY MEMBER.

Thos. G. Newman, Editor American Bee Journal, Chicago.

The Secretary offered a resolution as follows:

WHEREAS, The Illinois State Bee-Keepers' Association has been advised of a movement looking to the organization of an association to be known as the "Illinois Farmers' Club," and composed of the live stock and other agricultural associations of the State, and having for its object the holding of annual meetings for the promotion of the various industries represented, and,

WHEREAS, The interests of all engaged in farming pursuits can be promoted by such annual gatherings held for the purpose of discussing all matters relating to agriculture. Therefore be it

Resolved, That the Illinois State Bee-Keepers' Association hereby agree to co-operate with agricultural organizations of the State in holding a series of meetings in the month of December, 1891, at Springfield.

Resolved, That it is the sense of this Association that arrangements be made for holding the meetings of the respective organizations, composing the Illinois Farmers' Club, in the day time, and the mass meetings composed of all the members of the several societies, be held in the evening in the Hall of Representatives, in the Capitol building during the continuance of the session of the Illinois Farmers' Club.

Resolution adopted as read.

On motion, the Chair appointed a committee of three to draft By-Laws, and report at next regular meeting

Committee as follows: C. E. Yocom, Aaron Coppin, and Geo. F. Robbins.

Motion prevailed that the Executive Committee be the Board of Directors for incorporation.

Motion that this Committee be authorized to procure the articles of incorporation, and be furnished with required amount to pay for same. Prevailed.

Motion by Mr. Newman that our State Legislature be asked for an appropriation of five thousand dollars ($5 000) to represent our interests at the World's Columbian Fair. Pending this question Mr. Newman gave us a very eloquent address on the importance of bee keepers making exhibits before the public.

Mr. Thomas G. Newman, of Chicago, editor of the American Bee Journal, by request, addressed the convention on the subject of "The Importance of Displays or Exhibits of Honey at Fairs."

Mr. Newman said that the magnitude of the industry of "bees and honey" could be estimated by the fact that there were in North America 300,000 people who keep bees, and if these apiaries average but ten colonies each, the number of colonies reaches 3,000,000, and if these produce but the very small average of 25 pounds of honey per colony, then the product is 75,000,000 of pounds of honey, worth $10,000,000; and if each colony of bees yields but one pound of beeswax yearly, then the wax product at 20 cents per pound is worth $600,000.

The speaker said that notwithstanding the many improvements that had been made in apiculture, it was but yet in its infancy—that the flora now going to waste in America could, if properly gathered by bees, produce a revenue of $200,000,000.

He said that in view of the fact that Illinois was expected to make a grand exhibit at the World's Columbian Fair, of the products of the State, apiculture should have its appropriate place in that display. Illinois stood second in the galaxy of States as to honey production, and it is asserted that there are within its borders 20,000 persons who keep bees. The speaker said that he was heartily in favor of a good appropriation by the Legislature so as to secure a creditable display.

Some ask what money is needed for, and the speaker replied that it is needed to procure, transport, organize, and take good care of exhibits, and may be particularized thus:

1. To pay a competent person for time and diligent work for a year, or more, to procure, arrange, and superintend an exhibit which shall be a credit to the State.

2. He will need many assistants during the entire time of holding the Columbian Fair, to care for and protect from damage or waste, the many articles exhibited, as well as to keep them clean and in proper condition for thorough examination by the millions of visitors. These must be efficient persons, and will have to be suitably paid.

3. Products of the apiary, machinery and appliances will have to be transported to the Fair Grounds, and this will entail considerable expense.

4. We do not desire a seperate building for the industry of bee-keeping, but it will be necessary to *fit up a large space* in one of the principal buildings devoted to agriculture, horticulture or floriculture. To make it convenient, and have it attractively decorated, will cost money, but it will be well spent, nevertheless, for the general verdict at all Fairs, is that the Bee and Honey Department is the most attractive thing on the grounds.

5. At the close of the World's Fair all the goods exhibited must be carefully packed and returned to the owners. This item of expense for labor, material, drayage and railway transportation will be very large on account of the care required in handling and packing, so as not to destroy the values. Honey in the comb (in all forms and shapes imaginable) is delicate and fragile, and the utmost care will be required to prevent its being damaged or ruined entirely.

6. And last but not least, cash prizes, medals and diplomas will of necessity be required to bring out an exhibit, which will honor the State. This item must necessarily be a large one, for upon it will depend the success of the entire undertaking.

These are a few of the things that will require money, and for which a liberal appropriation is desired from the public Treasury.

The question of making exhibits at State, county and local fairs, he said, was one of the greatest importance to those engaged in bee culture. It is not enough to form societies and hold conventions for the purpose of instructing bee-keepers as to the best methods of preparing bees for winter, or of producing honey for market, or as to the best race of bees; we have but half done our work when we have learned all the improvements our fellow apiarist employs, or taught him all we know. There is a vast public which needs educating as to the value of honey for dietic and medicinal consumption. Their prejudices must be removed, and a desire and taste created for honey, as now exists for sugar and syrups. Bee papers cannot accomplish this work, because they circulate wholly among that class of people who already appreciate the value of honey; it cannot be done

through the agricultural press, because nearly all farmers are already consumers, and utilize its economic properties; we cannot educate the masses through the metropolitan and general press, because they collate their reading matter with a view to interesting the general reader.

The speaker said he could see no plan for carrying on this educational work so feasible as to take advantage of the large popular gatherings — and especially Fairs and Expositions — where pure honey can be exhibited to large quatities in its most attractive forms. Not only should the honey be exhibited and sold, but our beautiful and gentle Italians should be manipulated on the grounds, to attract the people through their instinctive curiosity; now and then a comb might be extracted and samples exhibited through the crowd; this, too is a good opportunity to explain the process of granulation of honey, and how to liquefy it. The primary lesson in the consumption of honey can now be instilled on the public mind by having a quantity on sale in neat, attractive packages, and of proper sizes for family use.

By offering liberal premiums and encouragement for apicultural displays, the agricultural boards and managers are not benefitting honey-producers alone. If it be their duty to assist in developing the natural and possible resources of our country, they certainly by every means should encourage these exhibits.

A few years ago, 180 tons of comb honey were sent to England; and at the Royal Agricultural Show it was arranged in a magnificent pyramid with a large sign "American Honey," over it, with the "Stars and Stripes" hanging in graceful folds around it. This not only took first prize, but created such a *furor* that the Prince and Princess of Wales and the Royal family came to the apiarian department in carriages to see it; alighting, they came in to examine it, and sought information regarding its production on so large a scale and in such tempting packages. A dozen crates of it were ordered for the Royal table, and, from the Queen to the peasant, all caught the enthusiasm.

I was amused at some of the effects of this display that I noticed in London. While walking down several of the busy streets, I noticed here and there that a crowd had gathered and blocked up the sidewalk. Coming closer, I found a cause of the excitement; show windows had been filled with comb honey, and a card announced that it was American honey and for sale at 2s. 6d. per lb. (60 cents.) They stood and gazed upon it, their very eyes seemed rived to the spot—but no word was heard—

"It seemed as though they saw a miracle,
And for very rapture ne'er would speak again,"

while their eyes feasted on the magnificent display of concentrated sweetness from

"The land of the free
And home of the brave!"

Not until sturdy policemen came to the relief of pedestrians could the crowd be dispersed. The order to "Move on; move on!" was obeyed, but

only to let another crowd form a few moments afterward. I witnessed this scene over and over again.

This "word-picture" gives us a striking lesson — to exhibit and display our honey, and thus educate the masses who by thousands carry home the small quantity to delight their families, and give them health and strength, both of body and mind, by the use of this God-given sweet. How much better to do this than to feed our sweet babes and tender off-spring upon vile glucose in the form of syrups, candies and condiments, and thus send them to an early grave, or sow disease in their little systems, by permitting them to use the vile stuff made from old clothes, boot heels and dirt, which greedy conscienceless men have made solely for the purposes of adulteration.

Yes; let us use every means to introduce honey to our neighbors—to tempt them with its beauty and beguile them with its sweetness. Let us take possession of every State, county and local fair, in the name of humanity, and educate the people with such magnificent exhibits of honey that they never can forget it. Distribute to the admiring crowd the evidence that honey is *good*, not only for *food*—giving warmth to the system, vigor to the vital functions, strength to the body, and force to the mind—but that it is good for *medicine*, healing many forms of disease and prolonging life.

Mr. Newman remarked that he had spent thousands of dollars to help open up the markets of the Old World to honey, and notwithstanding the fact that he had been roundly abused by short-sighted men for so doing, who feared that it would be an injury rather than a benefit, yet he was glad to see that the beneficial results were being noticed. Europe is holding out her hands to us and demanding tons of honey, when we have not a pound to spare—our home markets taking all we can produce with our limited number of bees and poor honey crops, but sweetness enough is going to waste to produce billions of tons, and the speaker said the time was coming when a revenue of millions of dollars would be received annually from foreign lands for honey that was now not gathered. He knew that intelligence and energy, coupled with improved implements and the "coming bee," would overcome all obstacles, and contribute a supply of superior honey to all the markets of the world.

Following Mr. Newman's address the question was put and prevailed.

Motion by C. E. Yocom that a committee of three (amended by making it seven) be appointed by the chair to present the last named memorial to the Legislature. Prevailed.

Committee as follows:

Thomas G. Newman, C. P. Dadant, Hon. J. M. Hambaugh, Col. Chas. F. Mills, S. N. Black, Hon. J. S. Lyman, and A. N. Draper. (For report of this committee, see appendix).

Motion prevailed that the next regular meeting be at the call of the Executive Committee.

Motion to adjourn. Prevailed.

JAS. A. STONE, Secretary. P. J. ENGLAND, President.

CALLED MEETING.

PRESIDENT'S OFFICE, FAIR GROUNDS OF THE SANGAMON FAIR ASSOCIATION, Sept. 8, 1891.

Previous notice having been given the Illinois State Bee-Keepers' Association met in called session, President England in the chair.

Col. Mills made a motion that the chair appoint a committee of three to formulate a program for our regular meeting in December. Carried.

The chair appointed the Secretary and Thos. G. Newman and C. P. Dadant.

Motion that Col. Chas. F. Mills be appointed a committee of one to draft resolutions expressing the gratitude of the Illinois State Bee-Keepers' Association to the Hon. J. M. Hambaugh for his services in behalf of bee keepers in the last session of the Legislature. Motion prevailed.

Three new members, upon the payment of their initiation fee, were added to the roll—D. D. Cooper, J. A. Kennedy and Wm. Yocum.

On motion adjourned till one o'clock p. m. tomorrow, Sept. 9th.

AT THE FAIR GROUNDS, Sept. 9, 1891, one o'clock p. m.

In the absence of the President, Hon. J. M. Hambaugh was chosen to preside. One of the members by request filled the chair while the President, Hon. J. M. Hambaugh, read a paper, subject "Our Report," as follows:

"Be it enacted by the people of the State of Illinois, represented in the General Assembly, that there be and hereby is appropriated for the use of the Illinois State Bee-Keepers' Association, the sum of five hundred dollars ($500.00) per annum: Provided, however, that no portion thereof shall be paid for, or on account of any salary or emoluments of any officer of said Association. And that said sum be expended by said Illinois State Bee-Keepers' Association in the publication of such reports and information pertaining to this industry as will tend to promote the growth, and develop the apiarian interests for the years 1891 and 1892.

"In order that we may thoroughly understand the situation and correctly interpret the meaning of the appropriation made for our benefit during the sitting of the last General Assembly, I take the liberty of reproducing Section 1 of the act.

"And now, Bro. Bee-Keepers, it is for us to make the very best possible use of this opportunity to infuse new life blood into our pursuit, and by our

united efforts, give to the public a report that will place us high up in the pinnacle of fame as an industry, and give it a growth that will be healthy and enduring, and which, if properly nurtured, will develop into one of the chief industries of the land. Let us prove worthy of the task, and ever bear in mind that what is worth doing at all is worth doing well, and that future appropriations may depend largely upon how wisely and judiciously we spend the one just granted. Therefore, let us advance with care, and put the very best possible means in force that are at our command to awaken an interest and properly develop the industry.

"We cannot afford to make any missteps. We have no time to theorize or extemporize. We want the pure cream and no skimmed milk. We want, also, to fulfill the letter of the law, and not ask one cent from the State until the book is upon the table of the Governor, subject to his inspection. And now, Brother Bee-Keepers, we want your opinion as how best to proceed. There is wisdom in council.

"So far as my own individual opinion is concerned, I will give it for what it is worth. Let the committee solicit each and every bee-keeper that is handling bees according to modern improved methods, to give us their manner of manipulating in about the following order:

"What kind of hives they use.

"What sized frame for brood, and, if running for extracting, what sized frame and super. If for comb, what super is preferable. And give results in honey, both in comb and extracted. Also give the shape in which comb honey is produced—if it be one pound, two pounds, or odd-sized sections.

"Also state the kinds of honey produced, and the quantities of each kind.

"Give the principal resources for honey in your immediate locality; how many of your neighbors have bees, and how they manipulate them. What per cent. of them use movable combs, and what per cent. fixed combs.

"How many turn off a surplus to the markets, and in what quantities and condition. Also state as near as possible prices received.

"Let each and every bee-keeper also give his views upon the best methods of honey production, and how to improve and simplify the art, and weed out the complications.

"It should also be the duty of the committee to counteract the feeling of prejudice that exists in the minds of the public that all extracted honey is impure and adulterated, with important essays upon that subject from suitable parties.

"Also the belief among many that bees destroy grapes, peaches and other fruit, should have a passing notice.

"There should also be a treatise upon the importance of the numerous existence of insects during the fruit bloom and the important part they play in cross fertilization of the bloom in the vegetable kingdom.

"There should also be a treatise 'How the farmer can conform his work so as to utilize his lands to the very best advantage and at the same time yield large amounts of honey.' "

Following the paper were continued discussions on the subject covered by the paper, till all the members present had given and received ideas innumerable, as bee-keepers always do when they convene.

On motion adjourned sine die.

JAS. A. STONE,
Secretary.

P. J. ENGLAND,
President.

Illinois State Bee-Keepers' Association met in the Senate judiciary room of the State House at 10 o'clock a. m., December 16, 1891, for a two days' session.

Called to order by the President, P. J. England.

The meeting was opened with prayer by Rev. Dr. Johnson, of the Second Presbyterian church, city. He thanked the Lord for His goodness in the past, invoked the Divine blessing upon the association and its members in their pursuit of honey production; thanked Him for His goodness in giving us the little bee, and prayed that we might all learn lessons and habits of industry from it.

Following the prayer was the welcome address by Geo. F. Robbins, of Mechanicsburg, as follows:

"Mr. President, Ladies and Gentlemen of the Illinois State Bee-Keepers' Association—I hoped to derive inspiration from a larger audience. I am like Melancthon, pots or empty chairs are not heads. When I do address an audience at all I like to talk to a full house. I especially miss quite a number from other parts of the State whom I hoped to welcome.

"I am here in behalf of the Capitol Bee-Keepers' Association to bid you an earnest, cordial welcome to Springfield. And it is not with us a mere matter of form or courtesy. We welcome you because we are glad to have you. We are a specially favored class just now. Ever since last February we have been looking forward with constantly heightening anticipation to this day when we should meet with so many of the lights of bee culture, and, although some of them are missing, yet still we have Mrs. Harrison, our big member of the Legislature, and others whom we are glad to have with us.

"If we were to analyze our feelings on this occasion we might have to confess that our pleasure is largely the outgrowth of a very human frailty we sometimes call toadyism—a sort of pride and vanity in being able to associate with those whom we fancy to be a little bigger or higher up in the world than ourselves—to meet them on a level, so to speak.

"In 1860 my father had business in this city one day and chanced to meet Abraham Lincoln, walked a few blocks with him and engaged him in con-

versation. Of course he had to tell about it at home, and years afterwards, after both these man had yielded up their lives for the Union, mother would tell it to us little folks, and how big we did feel, to think that father had walked and talked with Abe Lincoln.

"And a few years ago perhaps 30,000 people craned their necks and spread their eyes, lined the windows and balconies, balanced themselves on the picket fences; small boys, it is said, rode stick horses in their frantic efforts to get up in the world, all to get a look at the illustrious Plumed Knight on his western tour. A little clannishness in it perhaps. He was their man—the hero of the hour.

"Now we bee-keepers think that a big bee man is a little the biggest person in the world. We little fellows can go home now and tell the folks that we have seen bigger elephants than Jim Blaine himself—aye, took them by the hand and talked with them face to face.

"A Sunday school superintendent once put this question to his school: 'Whom would you like most to see when you get to Heaven?' One little tod shouted 'Gerlier.' If such a question was put to us bee-keepers we would perhaps sing out 'Mrs. Harrison,' 'Mr. Newman,' or some other worthy of our ranks. Seriously, there is something nobler involved than all this. I have used the word clannishness, but I do not mean the more offensive type of clannishness. It is something loftier, profounder than that--a kinship of spirit, prompted by kinship of occupation.

"One day last summer I was attracted by the sound of drum and fife to Revere House, to find it was the occasion of the reunion of a regiment of soldiers. I took the badge of one in my hand and read '73rd Reg. Ill. Vol. Inf.' That was my father's regiment, I said. With a kindly remark the old soldier grasped my hand and gave it a warm shake. You understand the feeling that thus went out toward even the son of a veteran. It is a spirit akin to this that bee-keepers possess for one another. A kinship, not sanctified, perhaps, by the toils of campaigning to dangers of battle or even the sacredness of cause, yet one consecrated by the pursuit by which alike we obtain our bread and butter.

"It is a feeling that wells up and flows out when bee-man meets bee-man —a chord of sympathy that vibrates at the slightest touch.

"Yes, we are glad you are here. We trust you are glad to be here. We hope you will enjoy yourselves. We hope we may all have a mutually pleasant and profitable time, and all go home feeling benefitted and happy."

Response by Mrs. L. Harrison, of Peoria.

"Mr. President, Ladies and Gentlemen—Our thanks are due to the gentlemen who has with kindly words and happy phrase welcomed us here today, and to the good and hospitable people of Springfield, the beautiful Capital City of our Empire State of the West—grand old Illinois.

"While it is true that our industry from two unpropitious seasons in succession is rather under a cloud, let us remember that it is darkest just before day, that 'The race is not to the swift, nor the battle to the strong, but he that endureth to the end, the same shall be saved.' That profiting by the experience of the past with hope and faith in the future, we will gird up our loins and press forward in our calling, remembering that he who causeth two blades of grass to grow where one grew before, is a benefactor to his race."

Roll call showed more than a quorum of members present and many visitors, some of whom afterward became members.

Payment of dues resulted in swelling the list of membership to fifty-eight (58) members. The different members were requested to rise and give name and address and report number of colonies of bees, the number of pounds of honey produced and the increase of colonies, as follows:

Jas. A. Stone, Bradfordton, reported number of colonies, spring count, 90; increase of swarms, 12; surplus honey, 300 pounds; all honey dew, though 50 pounds was lighter than the rest.

D. D. Cooper, Sherman, 25 colonies, increase 4, no surplus.

Wm. Conkling, Springfield, 12 colonies, no increase, no surplus honey.

W. J. Finch, Jr., Chesterfield, 43 colonies, no increase, no surplus.

P. C. VanDoren, Curran, 30 colonies, increase 3, no surplus.

J. A. Kennedy, Pasfield, 70 colonies, increase 4, surplus 1,000 pounds.

Mrs. L. Harrison, Peoria, 74 colonies, no increase, no surplus.

J. M. Hambaugh, Spring, 200 colonies, increase 40, surplus 1,000 pounds.

Geo. F. Robbins, Mechanicsburg, 55 colonies, increase 13, surplus 400 pounds, honey dew, and 100 pounds of white clover honey.

S. N. Black, Clayton, 50 colonies, no increase, surplus 400 pounds.

C. E. Yocum, Sherman, 50 colonies, increase 6, surplus 300 pounds.

Lot Mason, Auburn, 30 colonies, no increase, no surplus.

A. N. Draper, Upper Alton, 340 colonies, no increase, surplus not given, all dark honey.

Geo. Ponidexter, Kenney, 140 colonies, no increase, surplus 1,000 pounds.

Aaron Coppin, Wenona, reported later by letter that he had obtained this year 3,000 pounds of fine white honey, said they had no honey dew in his locality.

All the others reported dark honey with but two exceptions—Robbins, 100 pounds; Stone, 50 pounds.

Adjourned for noon.

Met at 1:30 p. m.

Discussions on various topics.

On motion, Mr. G. F. Robbins was appointed a committee of one to confer with the other associations in session in the State House—the Illinois Shorthorn Breeders, Illinois Swine Breeders, and Illinois Sheep Breeders—comprising the Illinois Farmers' Club, to make the arrangements for a union meeting.

The committee, on his return, reported the finding of only six men and ten cigars, and the prospect of a union meeting vanished.

Minutes of last regular and intervening meetings read and approved.

Secretary's report was read as follows:

SECRETARY'S REPORT.

This year has been *one* of the poorest, if not *the* poorest year for apiarists since the improvement in bee culture. And not only for our State, but for nearly all the other States as well.

We remember no year in which there has been such a complaint of the darkness in the color of honey.

We have in years past heard of the value of honey dew, but never before such general complaint as to the color of *honey dew honey*.

Our President in the early part of the honey dew season, in writing to us, said: "My bees are doing exceedingly well on honey dew, and it appears to be light in color and very nice." Later he said in a letter "My! O! My! *how dark!*"

In the early season of honey dew we made a visit to the timber and observed that there was an immense quantity of honey dew on all kinds of leaves, and it had a clean, nice appearance. On visiting the same place about a week later—of windy, dusty weather—the first thing that attracted our attention was the dirty, black, sticky looking leaves that greeted our attention everywhere. And our first thought was—will our bees gather such stuff as this? While on our first trip we had wished for such pasture for our bees.

Later in the season the question, whether our bees would gather it, found its own solution.

When we began to search for honey for the fair we found only about a half dozen cases that were well filled.

Out of these half dozen cases only two of them were at all presentable, and we supposed they must have been gathered from Alsike clover, and the remainder from the much talked of honey dew. (We will not call it bug juice, we do not like that name). The color of the *two* cases was a clear golden, but on tasting we found it the same flavor as the dark. Then we began to compare dates, as found on our little slates, and we noticed that the cases containing the lighter honey had been placed on the hives previous to our first visit to the timber, and the other darker ones later. We can all

draw our own conclusions. Our only objection to the term *bug juice* is that it prejudices the mind of the honey consumer, and leads them to believe that it is worse than it really is.

Webster tells us that *exude* means to discharge as sweat through the pores. And the American Cyclopædia tells us that most kinds of Aphis exude a sweetish substance (called honey dew), through a pair of tubular horn-like processes.

We take it then that the difference between the honey bee and the aphis is, that one gathers from flowers and exudes wax and honey in the hive; the other gathers from leaves and exudes honey in a spray which settles on the surrounding leaves.

And further. The fact that the Aphis does exude this sweet undigested (not being required for its sustenance) proves that the sweet is in the leaf, and the American Cyclopædia, in citing the case says, "On the other hand, it seems to be equally well established that sometimes this liquid is exuded by the leaves of trees without any insect being concerned in the operation," etc. But we leave this subject.

Notwithstanding our honey crop was a short one, we had good exhibits at many of our fairs. And at our Sangamon Fair, the best we ever had, and we conclude that where the premiums are what they ought to be, there will always be a good display. And if the premium list is not right whose fault is it? We found the Board of our fair willing to place the premiums just as our committee asked of them.

The Superintendent of the St. Louis Agricultural and Mechanical Ass'n writes us as follows: "Will you please let us know of any measures which may be taken at the coming meeting of your Association by which the prospects of bee-keepers may be improved at fairs? It is the wish of our President, Mr. Rolla Wells, and the directors of this association, to encourage the apiarian industries in every way, and we shall be glad to have you point out to us, how best you think we can meet you."

Is not this plain enough so that he who runs may read?

One of the most perplexing questions that seems to be staring us in the face is that of bee pasturage. And it is our opinion (oft repeated) that the sowing of Alsike clover, when its value is more fully known, will go far toward solving this question. We believe that as pasturage, or for hay for stock, that they will choose it before the red clover. We can say that our cattle, sheep and calves prefer and eat it cleaner, and apparently thrive better on it than on red clover. The question that remains is, how can it best be introduced?

We might go on propounding questions innumerable and touching on other subjects which we hope to hear from through the question box, and through papers that will follow, but we turn to other points.

Your committee on program began their work soon after its appointment, and although we have, we think, a program that your time can all be occupied upon, and one that will be good enough for any one to listen to, yet, for some of our valued subjects we found no writers. In two cases they regretted that they could not act, but were preparing for a trip to California. One was detained by sickness, and two others by previous engagements. We advise our committee that next time they be more previous.

We will touch on but one more point—that of membership.

Our association was organized with but sixteen charter members, from different parts of the State. During the year our membership has increased to more than fifty members, and the surprising part of it is that most of them were sent in by one member, Brother A. N. Draper, and his first step was to make each member of his family a member of this association. In his family we had at that time our oldest and youngest members, and they both, lady members.

But at the meeting at the fair, we received our oldest member up to this time—J. A. Kennedy, of Pasfield, aged 83 years.

Would it not be well to elect these elderly people honorary members? And would it not also be well for others to take a lesson from the example of our Bro. Draper?

TREASURER'S REPORT.

The Treasurer read the following report:

To the Illinois State Bee-Keepers' Association,

GENTLEMEN: I have the honor to report to you as follows:

Feb. 26, 1891, to cash received of Secretary	$15.00
Aug. 19, 1891, " " "	4.00
Sept. 1, 1891, " " of twelve new members	12.00
Sept. 8 to Dec 14, 1891, to cash received of sixteen new members	16.00
Dec., 1891, to cash received of six new members	6.00
Total to date	$53.00
Feb. 26, 1891, by cash to order of Secretary	$ 3.75
Sept. 9, 1891, " " "	3.00
Total	$ 6.75
Dec. 16, To balance on hand	$46.25

Approved. A. N. DRAPER, Treasurer.

Committee on By-Laws made their report which was, after being considered, adopted as a whole. (See By-Laws, page 9).

A paper was then read by Hon. J. M. Hambaugh, as follows:

WHAT LAWS ARE BEE-KEEPERS IN NEED OF?

"It seems to me that the needs of bee-keepers in this direction are not very many. Yet, probably, they should stand before the eyes of our sister industries as one worthy of consideration, and as having rights which they should respect. We are not sure that the laws as they stand upon the statutes are sufficient to guarantee to us that liberty and rights under all circumstances as guaranteed other industries and occupations, and in fact, I believe there has never been but one law passed in our Honorable Legislative body that was specially in the interest of that worthy avocation, and that exception, as you are aware, was the bill granting the annuity of $500 for the publishing of our Bee-Keepers' report. There was another bill presented before that honorable body, prohibiting the poisonous spraying of fruit trees while the same were in bloom. This bill met with defeat in the Senate after having passed the House, and after all amendments were made and adopted, read as follows:

A BILL

For an act to protect bees from poison through the spraying or otherwise treating of fruit or other trees, shrubs, vines or plants with London purple, Paris green, white arsenic or other virulet poison, while the aforesaid trees, shrubs, vines, or plants are in bloom.

SEC. 1. Be it enacted by the People of the State of Illinois represented in the General Assembly: That it shall be unlawful for any person to spray any fruit-bearing trees, shrubs, vines or plants with Paris green, London purple, white arsenic, or other virulent poisons, or to scatter upon such trees, shrubs, vines or plants, powdered London purple, Paris green, white arsenic, or other virulent poisons, while such trees, shrubs, vines or plants are in bloom, and so may be visited by honey bees in quest of nectar or pollen. And that any person who shall spray such trees, shrubs, vines or plants with London purple, Paris green, white arsenic or other virulent poisons upon which same while in blossom, shall be deemed guilty of misdemeanor, and for the first offence shall be punished by fine in any sum not less than five dollars, and for the second offence by fine in any sum not less that twenty-five dollars, and in default of payment of the same, by imprisonment in the county jail not more than ninety days.

§ 2. All fines and penalties specified in this act may be recovered by information, complaint or indictment, or other appropriate remedy, in court of competent jurisdiction, and when recovered, shall be paid into the County Treasury of the county in which the offence was committed.

"It remains with you, brother bee keepers, as to whether or not this bill shall be presented again at our next General Assembly. If you consider it of sufficient merit, and bring it up properly before your representatives, there will be but little opposition to its passage. The principal opposition that developed itself at the last General Assembly was, "that it was antagonistic

to the interests of the fruit growers," and was "one industry arraying itself against another;" and as some of the representatives would say, "the fruit grower has a right to do what he pleases upon his own premises, and if the bees are caught stealing away from home, let the owner thereof keep them upon his own premises, or bear the consequences." To the first objection, I will say that as to the bill being antagonistic to the fruit-growing interests, I was able to prove quite the reverse, and had the testimouy of such men as Prof. Cook, of the Agricultural College, Mich., and our own State Entomologist to back me, besides the officers of the State Horticultural Society were all friendly to the measure, and Prof. Hammond, Secretary of that honorable Society, came before the committee to which the bill was referred, and helped to secure a favorable report and passage from that committee. It is becoming a recognized fact among the intelligent fruit growers that the insect kingdom is an absolute necessity for the cross fertilization of the fruit bloom, and that the honey bee is the most conspicuous and beneficial of all others in this direction, and without the aid of which our fruit industry would be greatly damaged; hence, the mutual feelings of welfare and friendship that exist between the two societies. One is highly essential to the success of the other. The wide awake aparis desires his bees to be in close proximity to the apple orchard in order to obtain the first nectar of the season for stimulating purposes, and the horticulturist desirous of as perfect cross fertilization as possible, desires that the bees should literally swarm upon the bloom, and the more bees the better for this important feature. As to the objection that the bees are libertines, and should be confined upon certain specified grounds, etc., it is exceedingly shallow logic and can only emanate from a shallow mind and is hardly worthy of notice.

"The designer of all good, when he created the honey bee, evidently designed him as a benefactor to mankind in a more general way than as a private benefit to the bee-keeper alone. In fact the primary object of their creation is the fertilizing of the bloom of the fruits and grasses, while the honey produced is but secondary consideration and importance. These facts have long been recognized by our scientists and which form a kindred link between the apiarist and horticulturist, to the extent that their interests go hand in hand, so much so that what is to the interest of one is to the interest of the other, and hence their mutual affinity and good will. A representative in the Representative Hall one day said to me: 'Hambaugh, if it does no good to spray the trees while the same are in bloom, the fruit growers will soon learn it, and the law would be useless upon our statutes.' I replied: 'Very good, but at the same time evil disposed parties who, for some imaginary cause or spite can wreak his vengeance upon the bee-keeper, doing him great injury and injustice, and with no such law upon our statutes, it leaves him without recourse, and I believe our law-makers owe it to the bee-keepers for self-protection. You are all doubtless aware that many a bee-keeper has had his prospects blighted and incalculable injury done him by this more that useless practice.'

"It has also often seemed to me that we are in need of a law to prevent our pure honey from coming in contact with adulterated honey. During my experience as a salesman of honey, I have become thoroughly disgusted with the stale old cry of 'adulteration,' and many times has it been somewhat difficult to repress feelings of anger at the manner in which grocers and dealers would scan our samples with an eye of suspicion and distrust, and with all our sincere declarations of our honey's virgin purity, we could not succeed in lifting their cloud of prejudice and suspicion, and which you know is prevalent more or less the country over. The impression seems very prevalent among the masses that all extracted honey is adulterated, and with this idea dominant among the people, it has become a terrible drawback or impediment to the sale of our pure honey, and tons of pure honey remain unsold upon the markets, through the cause of the fraudulent practice that was once instituted by our wholesale merchants of the East, in placing upon the markets millions of pounds of glucose in small packages with a piece of honey comb swimming on top and labeled 'Pure Honey.' This practice has poisoned the minds of the consumers of honey, and brought a calamity to the bee-keeper that will require the stern hand of the law to overcome, and it has occurred to me that if the fraudulent manufacture of butter can be prevented and regulated by statute, why also can we not place a heavy penalty upon the adulteration of honey, and check the output of a fraudulent article? This is certainly a matter of great importance to the bee-keepers and should receive immediate consideration.

"I believe, also, that we are in need of a law for the suppression and prevention of the spread of 'Foul Brood'. While in the Legislature, Hon. W. S. Smith, of Macon county, brought my attention to the fact that such a law was needed in his section of the country and some of his constituents desired him to look into the matter, as the disease was in their midst and required prompt attention. At that time it was rather late in the session to expect to carry the matter to a favorable culmination, but through the kindness of Hon. Chas. F. Mills, we obtained a form of a bill which we started on its road and read as follows

A BILL

For an act for the suppression of foul brood among bees and making appropriations for the expenses of the work.

Whereas, Bee keeping is a large and growing industry in the State of Illinois and worthy of protection and encouragement, and

Whereas, The beekeepers of the State have petitioned the General Assembly to levy a tax on each stand of bees, the revenue therefrom to be used in the suppression of foul brood among bees and the promotion of the bee-keepers' industry; therefore,

SECTION 1. Be it enacted by the people of the State of Illinois, represented in the General Assembly, That the Illinois State Bee-Keepers' Asso-

ciation shall at each annual meeting, or the directors of said association shall, if during the interval between two annual meetings the occasion should arise, appoint a State inspector of apiaries and such number of assistant inspectors as the exigencies of the service may from time to time require.

§ 2. The assistant inspectors may when so directed, as hereinafter provided, perform all the duties and exercise all the powers conferred by this act and delegated hereby to said State inspector.

§ 3. The State inspector or assistant on entering upon any premises in the discharge of his duties shall, if so required, produce the certificate of the President of the said association that he has been appointed as such inspector or sub-inspector, as the case may be.

§ 4. The said State inspector and assistant inspector shall hold office for one year from the date of the annual meeting at which they were appointed; or if they shall have been appointed by the directors, then until the next annual meeting after such appointment, and shall be eligible for re-election, but the said State inspector or assistant inspector may at any time, subject to the approval of the Governor, be removed from office by the directors for neglect of duty or other sufficient cause, and in case of such removal the directors shall without delay appoint a successor.

§ 5. The said inspector shall, whenever so directed by the President of the Illinois State Bee-Keepers' Association, visit without unnecessary delay any locality in the State of Illinois, and there examine any apiary or apiaries to which the said President may direct him, and ascertain whether or not the disease known as "foul brood" exists in such apiary or apiaries, and whenever the said inspector shall be satisfied of the existence of foul brood in its virulent or malignant type, it shall be the duty of the inspector to order all colonies so affected, together with the hives occupied by them, and the contents of such hives, and all tainted appurtenances that cannot be disinfected, to be immediately destroyed by fire under the personal direction and superintendence of the said inspector; and after inspecting infected hives or fixtures, or handling diseased bees, the inspector shall, before leaving the premises or proceeding to any other apiary, thoroughly disinfect his own person and clothing, and shall see that any assistant or assistants with him have also thoroughly disinfected their persons and clothing: *Provided*, that where the inspector, who shall be the sole judge thereof, shall be satisfied that the disease exists, but only in milder types and in its incipient stages, and is being or may be treated successfully, and the inspector has reason to believe that it may be entirely cured, then the inspector may, in his discretion, omit to destroy or order the destruction of the colonies and hives in which the disease exists.

§ 6. The inspector shall have full power, in his discretion, to order any person or possessor of bees dwelling in box hives in apiaries where the disease exists (being mere boxes without frames) to transfer such bees to movable frame hives within a specified time, and in default of such transfer

the inspector may destroy or order the destruction of such box hives and the bees dwelling therein.

§ 7. Should the owner or possessor of diseased colonies of bees, or of any infected appliances for bee keeping, knowingly sell or barter, or give away, any such diseased colonies or infected appliances, he shall on conviction before any justice of the peace be liable to a fine of not less than $50 or more than $100; or to imprisonment for any term not exceeding two months.

§ 8. Should any person whose bees have been destroyed or treated for foul brood sell or offer for sale any bees, hives or appurtenances of any kind after such destruction or treatment, and before being authorized by the inspector so to do, or should he expose in his bee yard or elsewhere any infected comb, honey or other infected thing, or conceal the fact that said disease exists among his bees, he shall on conviction before a justice of the peace, be liable to a fine of not less than $20 and not more than $50, or to imprisonment for a term not exceeding two months and not less than one month.

§ 9. Should any owner or possessor of bees refuse to allow the inspector or his assistant or assistants to freely examine said bees or the premises in which they are kept, or should such owner or possessor refuse to destroy the infected bees and appurtenances or permit them to be destroyed when so directed by the inspector, he may, on complaint of the inspector, be summoned before a justice of the peace, and on conviction shall be liable to a fine of not more than $50 or less than $25 for the first offense, and not more than $100 or less than $50 for the second and any subsequent offenses, and the said justice of the peace shall make an order directing the said owner or possessor forthwith to carry out the directions of the inspector.

§ 10. Where an owner or possessor of bees shall disobey the directions of the said inspector or offer resistance to or obstruct the said inspector, a justice of the peace may, upon the complaint of the said inspector, cause a sufficient number of special constables to be sworn in, and such special constables shall, under the directions of the inspector, proceed to the premises of such owner or possessor and assist the inspector to seize all the diseased colonies and infected appurtenances and burn them forthwith, and if necessary, the said inspector or constables may arrest the said owner or possessor and bring him before a justice of the peace, to be dealt with according to the provisions of this act..

§ 11. Before proceeding against any person before a justice of the peace the said inspector shall read over to such person the provisions of this act, or shall cause a copy thereof to be delivered to such person.

§ 12. Every bee-keeper or other person who shall be aware of the existence of foul brood either in his own apiary or elsewhere, shall immediately notify the President of the Illinois State Bee-Keepers' Association of the existence of such disease, and in default of so doing shall on summary conviction before a justice of the peace be liable to a fine of $5 and costs.

§ 13. Upon receiving the notice in the preceding section mentioned, or in any way becoming aware of the existence of foul brood in any locality, the said President shall immediately direct the said inspector to proceed to and inspect the infected premises: *Provided*, that when the person giving such notice is unknown to the President, or there is reason to believe that the information in said notice is untrustworthy or that the person giving such notice is actuated by improper motives, then the said President may require the person giving such notice to deposit the sum of $5 with the President as a guarantee of good faith before the said notice shall be acted upon, and it shall prove that such notice was properly given, then the said deposit shall be returned to the person giving such notice, but otherwise the said deposit shall be forfeited to the use of the said Illinois State Bee-Keepers' Association.

§ 14. The said association shall include in its annual report to the Governor a statement of the inspector's work during the preceding year, which statement shall include the number of colonies destroyed by order of the inspector, and the localities where found, and the amount paid to him for his services and expenses for the preceding year.

§ 15. The directors of the said association may from time to time make such by-laws and regulations for the control and guidance of the inspector in carrying out the provisions of this act as they may deem necessary, and the said directors shall also by by-law fix the amount of the remuneration of the said inspector and sub-inspector, but all such by-laws and regulations shall be subject to the approval of the Governor.

§ 16. It shall be the duty of each assessor at the time and in the same manner as other property is listed for taxation to require each owner of bees to specify on the schedule containing his or her assessed property the number of stands of bees in his or her possession, which information the assessor shall add up and note in his assessment book under proper headings, with the footings given in the space provided for the aggregates.

§ 17. There shall be annually assessed and collected at the same time and in the same manner as other State taxes five cents on each stand of bees, which tax shall be paid into the State treasury at the same time and manner as other State taxes, and to be used for the suppression of foul brood among bees and the promotion of the apiary industry of the State as may be from time to time voted by the Illinois State Bee-Keepers' Association and approved by the Governor.

§ 18. The revenue derived from the operations of this statute or so much thereof as may be necessary for the purposes specified in the foregoing section is hereby appropriated to defray the expenses contemplated by this act, to be paid by the State treasurer upon warrants drawn by the Auditor of the State, which warrants shall be drawn only upon vouchers and bills signed by the President of the Illinois State Bee-Keepers' Association, countersigned by the Secretary thereof.

"Now, Brother Bee-Keepers, it remains for you to say whether or not, this bill is in strict accord with our best interests, and in its present form will meet the required end. We thought that by levying the tax of five cents per colony it would be more certain of passage, and we would be in much better condition to meet and stamp out this dread disease, that is the nightmare of the bee-keeper, and when once is firmly established, which was reported to us to be the case, will require the enforcement of a statute similar to the one presented to the last assembly for our benefit."

A motion prevailed that when we adjourn it be to meet in a night session at 7:30 o'clock.

Mrs. Harrison, of Peoria, then read a paper as follows:

FERTILIZATION OF PLANTS BY HONEY BEES.

"As we open the book of nature, we are led to exclaim, 'O, Lord, how manifold are Thy works, in wisdom hast Thou made them all, the earth is full of Thy riches.'

"It is true of the vegetable, as well as of the animal kingdom, that 'In the beginning' God created them male and female, and commanded them to multiply and replenish the earth. It appears to be the first intention, of all vegetable and animal life to reproduce its kind. As plants cannot walk like animals, other agents were appointed to carry out the requirements of nature, viz: wind, water, birds and insects.

WHY IS AN AGENT NECESSARY?

"Some families of plants are called diœcious, from two Greek words, meaning two households, as the male and female flowers are found growing on separate plants, as the willow and green ash. When they are found growing on the same branch, as on the oak, walnut or castor oil plant, they are said to be monœcious; that is of one household. It is plainly seen that in these two families some foreign agent is necessary to bring the life giving power to the embryo plant.

WIND, WATER AND BIRDS.

"Those plants that are dependent upon the wind to bring together the agents that produce life, yield pollen in great abundance, as the pines (coniferæ), and it is carried great distances. Mr. Wiley has seen the ground in the vicinity of St. Louis covered with it, until it looked like being covered with sulphur, and he had good reason to suppose that it came from forests 400 miles distant. Currents of water convey pollen from one aquatic plant to another. In some parts of the world, as in South America and Australia, humming birds are the agents in conveying the pollen to some species of flowers.

INSECTS.

"Insects, in the economy of nature, are powerful agents in distributing the 'father dust,' and many plants have their own particular insect. Dicen-

tra Spectabilis never bears seed in this country, because its fertilizing moth has never been introduced from North China, its native habitat. Red clover trifolium pratense bore no seed in Australia until bumble bees, bumbus, were introduced, and they appear to be the chief fertilizers of this valuable forage plant.

HONEY BEES (Apis Mellifica).

"When Columbus discovered America he found no honey bees here, for there had been no need of any. But when the settlers came they brought apples, pears, quinces and cherries, and their fertilizers the honey bees. Nature detests self-fertilization, and we see how this is avoided by the wisdom of an all wise creator. The apple blossom is a perfect flower, containing both senses in one, with the stamens and anthers waving above the germ; why then does it need a foreign agent to insure fertilization? On a close examination we find that when the germ is in season for the fertilizing powder, the anthers waving above have not bursted. When the germ is ready nature spreads a rich feast of delicious, fragrant nectar, and invites the bees to the nuptials. They come, like millers, with flour on their bodies, and their pollen basket filled with it, kneaded into bread, and as they load up the nectar they leave some of the fertilizing powder in exchange.

"Five distinct fertilizations must take place in order to produce a perfect apple; if the seeds on the one side are fertilized and those on the opposite are not it will be shrunken. Nature has so ordered that only a limited number of insects shall survive the winter's cold; only the queens of some species as bumble bees and wasps, but bees dwelling in communities have survived by the thousands. Prof. A. J. Cook says: 'By actual count in time of fruit bloom, in May, I have found the bees twenty to one of all other insects upon the bloom; and on cold days, which are very common at this early season, I have known hundreds of bees on the fruit blossoms while I could not find a single other insect.' Thus we see that the honey bees are exceedingly important in the economy of vegetable growth and fruitage, especially of all such plants as blossom early in the season.

"In England a fruit grower was surprised to find that in one corner of his garden, in which were placed colonies of bees, the trees were heavily laden with fruit, while those more remote had set very sparingly Then he called to mind the circumstances of its being very dark and foggy during the blooming of the trees, so that the bees flew but a short distance from their hives. The proprietor of a cherry orchard in California, found that his trees did not bear remunerative crops after the fiat of the rasin growers, banishing the bees to distant canons. Being convinced of the necessity of bees to fertilize the bloom, he procured some colonies, located them in his orchard, and then realized satisfactory returns. Horticulturists and apiarists are like the American Union, one and inseparable.

WHITE CLOVER (Trifolium Repens).

"This valuable forage plant is dependent almost entirely upon honey bees for fertilization, as well as its near relation, Alsike clover, Trifolium hybrida Dairymen have complained that bees rob the pasture of its sweetness. A writer in the Naturalist says that it is estimated that to collect one pound of honey from white clover 62,000 heads of clover must be deprived of their nectar, and that 3,750,000 visits must be made by the bees. If this estimate is correct the loss of sweetness is not appreciable. Charles Darwin experimented for eleven years on the cross fertilization of plants and has given to the world some very valuable results, proving the value of cross fertilization as it is performed by insects. He found by experiment that from twenty heads of white clover, protected from insects, only one aborted seed was the result, while twenty heads on the plants outside of the net (which I saw visited by bees), yielded 2,280 seeds, as calculated by weighing all the seed and counting the number in a weight of two grains."

Mrs. Harrison had charts showing the organism of different blossoms and of honey bees. The explanation of these was of great interest to all present. Among other things she spoke of the strange fact that bees only worked on one species of plants at a time, *i. e.* that a bee did not, in gathering its load, go to different species of plants.

Mr. Poindester said in proof of the same fact that in years past, when hunting bees in the forests, he could not induce them to leave the mint they were working on and notice the white clover honey he carried.

Do bees work on red clover?

Mr. Black said: "Last summer I noticed my bees were thick on red clover and storing honey rapidly, and as soon as the clover was cut the storing ceased."

A resolution offered by Mrs. L. Harrison was adopted, as follows:

Resolved, That the thanks of this association are due to all the members of the State Legislature, who, by voice or vote, aided in placing our association upon a solid foundation; and in particular to the Hon. J. M. Hambaugh, of Spring, for his untiring efforts in behalf of our industry and our society.

A vote of thanks was also given to Mrs. L. Harrison for her efforts in behalf of the cause of bee-keepers throughout the State.

A resolution by G. F. Robbins was adopted, as follows:

Resolved, That a committee of five be appointed to prepare and report to this convention, as soon as practicable, a premium list for apiary exhibits at fairs, to be presented to the managers of the State fair, and all fairs within the State, to serve as a model for all such premium lists.

The committee appointed on the above resolution are: Mrs. L. Harrison, Geo. F. Robbins, S. N. Black, W. J. Finch, Jr., and A. N. Draper.

Resolution by G. F. Robbins as follows, which was adopted:

Resolved, That a committee of three be appointed to prepare and report a code of rules as standards of judgment by which exhibitors may be governed in making their exhibits and judges in awarding the premiums on bees, honey and other things pertaining to the apiary exhibits at fairs.

Committee as follows: Geo. F. Robbins, D. D. Cooper, and Chas. Becker.

Adjourned till 7:30 p. m.

Night session convened.

President announced that it would be a kind of love feast, in which general topics might be discussed.

The question of adulterated honey was long discussed and many favored an act of law to prevent it. A. N. Draper and some others favored a bounty of two cents on extracted honey. The Secretary suggested that a bounty on honey would do away with the need of a law against adulteration, as the government would refuse to pay a bounty on impure honey and the question would be settled.

The night session was so enjoyed by all present that it was quite a late hour when the meeting adjourned till 9 o'clock next day.

THURSDAY, 9 O'CLOCK A. M.

The first thing after roll call was an address by Col. Chas. F. Mills, as follows:

"Mr. President and Members of the Illinois State Bee-Keepers' Association—It is a pleasure to meet with you in your first annual meeting after the incorporation of the Association, and it gives me much pleasure to extend my hearty and cordial congratulations to all present on the success that has thus far attended your efforts in the line of promoting the interests of the bee-keepers of Illinois.

"The General Assembly has manifested its appreciation of your efforts by making an appropriation for the printing of your reports.

"You will pardon me for digressing from the subject assigned me on your programme to say that the Association cannot manifest too hearty or cordial appreciation of the services of Hon. J. M. Hambaugh in this connection. Mr. Hambaugh, as a member of the last General Assembly, made an earnest effort to have the bee-keepers' industry properly recognized by the State. He succeeded in spite of much opposition, and for his able and patriotic services in this matter is entitled to the gratitude of the bee-keepers of Illinois.

"The committee who arranged the programme for this meeting have taken the liberty of announcing that I would address you on the subject of bee-keeping for the general farmer. While not an apiarist and, having but

little experience in the line of bee-keeping, I have made it a practice to keep from ten to thirty stands of bees on the farm.

"This is an age of specialties and some of the bee-keepers present will insist that success in this line can be attained only by experts who make a special study of the apiarian art. The care of bees is not such a difficult undertaking that the farmer of average ability may not obtain a handsome profit for the time and labor expended in the care of a limited number of stands of bees.

"The man who makes a specialty of bee keeping and has some misgivings for fear that the general farmer may overstock the market with honey is the exception among apiarists.

"There should be a sufficient number of stands of bees in every county in Illinois to utilize the bee pastorage, and if the professional bee-keepers do not fully occupy the territory there should be no complaint if the average farmer keeps a sufficient number of stands of bees to utilize the honey crop.

"The farmers of the State should be encouraged by this Association to keep a sufficient number of stands of bees to at least supply the sweets for their own tables.

"It will be many years before the supply of honey produced in this State will exceed the home demand.

"This Association can render the State valuable service by encouraging a larger number of farmers and apiarists to give more general attention to the production of honey.

"The best authorities estimate the annual honey crop of Illinois to exceed $112,000. This amount can be increased four-fold through the earnest efforts of the Illinois State Bee-Keepers, Association. The knowledge of the healthfulness of honey consumption is confined to a comparatively limited number of the people of this State. The medical virtues of honey will largely increase the demand for the same when more of our people make a study of this subject.

"The appropriation made by the State for the publication of an annual report by the Illinois State Bee-Keepers' Association makes it possible to interest many of our farmers in the care of bees.

"It is suggested that the first annual report of the Illinois State Bee-Keepers' Association contain the information desired by the average farmer who contemplates the purchase of a few stands of bees as a nucleus for an apiary on a small or large scale.

"A chapter on bee-keeping that could be understood by the novice would doubtless interest the average farmer as much as any matter likely to be published in your annual report.

"Statistics as to the extent of honey production in this State, if published in your report, will also serve a valuable service in calling attention to an industry but little known or appreciated by the citizens of Illinois.

"You will pardon me for making so many suggestions in reference to the contents of your first annual report and duly consider the deep interest I have in the future success of your Association as an agency for developing the wealth of the State.

"In closing these remarks I desire to call your attention to the importance of making an attractive exhibit of honey and apiary supplies at the State and all the county fairs in Illinois each year.

"Some of our local bee-keepers have found the exhibit of honey, etc., at the fairs an excellent method of advertising their product and creating a demand for the same.

"The attendance of this meeting and the interest taken in the proceedings by bee-keepers from all sections of the State is a very encouraging evidence of the necessity of, and speaks well for, the permanent usefulness of the Illinois State Bee-Keepers' Association."

At the conclusion of Col. Mills' address, a vote of thanks was given him for his continued usefulness to the Association rendered in numerous ways.

Motion by Mr. Black that a committee of three be appointed for the gathering of statistics and on legislation. Prevailed.

Committee—J. M. Hambaugh, Mrs. L. Harrison and Dr. C. C. Miller.

Dr. C. C. Miller's paper (Marengo, Ill.) was then read as follows:

THE FUTURE OF THE ILLINOIS STATE BEE-KEEPERS' ASSOCIATION.

"I don't know its future. Neither do you. But it will do no harm to talk about it, and perhaps to do a little planning. Weighing the probabilities in the case I can see no reason why Illinois may not have one of the best State societies in the Union. There are plenty of good men in the State keeping bees, and at the outset the infant society has taken the lead of all others in the item of an appropriation from the State treasury.

"It may be worth while to give considerable attention to the matter of securing a large membership. Numbers have weight, and a strong society may do more good. Is it not possible to secure a membership of three to five hundred? I know it may sound a little wild to ask such a question in face of the fact that the oldest societies in the country have never reached any such numbers, and that the national society does very well if it secures a hundred names annually. But across the sea they have large memberships and large gatherings, and I think Canada is in this respect away ahead of any of the States. What's the trouble? I don't pretend to know in full, but I think we might find out something about it by investigation.

"For one thing, however, elsewhere there is some inducement to become members other than the mere privilege of attending the meetings. In Germany there are privileges to members, such as obtaining bee journals,

either free or at special rates, and in Canada, if I am not mistaken, each member gets annually a book or something else that makes his membership fee practically cost him little or nothing. Can we not do something a little in that line? Can it not be so arranged that every bee-keeper in the State, and perhaps a good many out of it, shall become members and stay members year after year, even if they can attend only a few or none of the meetings? Receiving the annual reports ought to be quite an inducement, but the bee journals give such full reports of all important meetings that the inducement is on that account less.

"It just occurs to me that it might be a good plan to include in this year's report the report of the meeting of the Northwestern at Chicago, Nov. 19. That society comes nearer being a State organization than any other except this. I can offer a precedent for such action in the case of the State Horticultural Society. This society had an appropriation from the State and the Northern Illinois Society had none, but the State society included in its report the report of the Northern society. If there should, however, be any danger of ill feeling engendered by such action among the local societies of the State, I should bitterly oppose it. Let us be strongly united in whatever we do, and avoid the least tendency toward anything like jealousies or breaking up into cliques. Let our motto be: 'The Greatest Good to the Greatest Number.'

"I am glad to say that the Northwestern Society at its late meeting took action in the matter, and expressed its willingness to step out of the way if the State society would take its place. There are good reasons why this would be advisable. As a State society there is a propriety in meeting at the capital, and yet there are prosperous State societies, as that of Michigan, which rarely meet in the capital. Receiving patronage from the State may, however, make a little difference. But if Springfield is the capital, Chicago is the metropolis, and with its many railroads centering from all directions invites attendance. But there need be no conflict. If it is best, let meetings be held in Springfield and also in Chicago. Surely it would give us an increased membership.

"What objections can there be to such a course? It may be objected that there would not be the same members at each place, and there would be practically two societies. The same thing might be urged against the National society, which at two consecutive meetings may have an almost entirely different membership. If it should be urged that two meetings in a year would divide the interest and not be so successful as a single meeting, the reply comes that there is no weight in that objection, for if the State society does not hold a meeting in Chicago the Northwestern probably will, thus dividing the interest even more.

"I have faith in the future of the Illinois State Society, because I have faith in Illinois bee-keepers."

Hon. J. M. Hambaugh, Spring, Ill., offered a resolution favoring the union of the Northwestern Bee-Keepers' Association with the Illinois State Association.

But a substitute to the same was offered by S. N. Black, of Clayton, Ill., which was adopted, as follows:

Resolved, That the Illinois State Bee-Keepers' Association endorse and accept the action of the North western Bee-Keepers' Association, as to joining this Association, and that the President is directed to call one meeting each year in Chicago at such time as the Executive Committee may direct.

The action of the Northwestern Bee-Keepers' Association at Chicago, in its recent meeting, was as follows:

"It was voted that the Northwestern be merged into the Illinois State Association, provided, that the Illinois State Association will accept of the Northwestern, and will agree to hold one meeting more, if necessary, every year in Chicago. If the Illinois State Association accept these terms then the election of officers of the Northwestern will be void."

A resolution was adopted authorizing the Secretary, in behalf of the Association, to invite all the bee-keepers' associations of the State to affiliate with us.

Resolution by C. E. Yocom, Sherman, Ill.:

Resolved, That the Illinois State Bee-Keepers' Association most earnestly protest against the opening of the World's Columbian Exposition on the Sabbath.

Resolved, That a committee (of one) be appointed to prepare a memorial to be presented to the managers of the Word's Fair, and the State Board of Agriculture on this subject.

Committee—C. E. Yocom.

Report of committee as follows:

WHEREAS, It has been decided to hold in Chicago, in 1893, an International Exposition in commemoration of the discovery of America by Christopher Columbus, and

WHEREAS, The founders of our republic were men with implicit trust in the living God, and her history is replete with the names of noble defenders of her honor, who, like Washington, placed their dependance upon Almighty God, and

WHEREAS, The Sabbath day is an institution of God, and in the history of the world its proper observance has been proven to be a boon to humanity, and in our national history it is a distinctive feature of its Christian name, and

WHEREAS, It is proposed to open the doors of the Columbian Exposition in 1893 upon the Sabbath, as on other days, and thus to bring the sin of the Sabbath breaking upon the hitherto honorable record which our nation has made in previous international expositions, and

WHEREAS, The proposed Sabbath opening would deprive the men in charge of exhibits from the rest which is in the institution of the Sabbath.

Therefore, The Illinois State Bee-Keepers' Association respectfully and most earnestly petition the proper authorities that the Columbian Exposition be closed upon the Sabbath day, that we may be spared the stain of a conspicuous and flagrant act of disobedience to God.

Committee—C. E. Yocom, Sherman.

Resolution offered by the Secretary :

Resolved, That the thanks of this Association be extended to I. N. Pearson, State Secretary, and to W. E. Savage, chief janitor, for the use of the Senate judiciary room, and for the kind treatment we have received at their hands during our most pleasant sessions; also, to the St Nicholas hotel for their kind entertainment.

A motion by A. N. Draper, Upper Alton, Ill., prevailed, that a committee of three be appointed to visit the different societies of the State (at their own expense) to visit and confer with them.

Committee—A. N. Draper, W. J Finch, Jr., and C. E Yocom.

In the discussion on Alfalfa, which followed, it was a question whether it was desirable to sow it here as it might not produce honey on our soil.

Motion by A. N Draper, that a committee of three be appointed to find out from the State Board as to the value of Alfalfa and other plants foreign to our soil as honey plants, and have it published in the report.

Committee—Geo. Poindexter, S. N. Black and L. Mason.

Reported from the report of the Experimental Station, not favorable on Alfafa. And Mr. Mason, of Auburn, reported on same later, as follows :

"In the winter of 1885 and '86 I was in California and sent home some Alfalfa seed to a near neighbor, Mr. H. S Winman, who had formerly lived in California and had there raised it. The seed was good and he prepared the soil in good shape and did not sow till danger of frost was over—he thought. It came up nicely, and late in March there came several hard freezes that heaved most of it out of the ground and that proved failure No. 1.

"The next experiment I will mention, as coming under my personal knowledge, was by one of my near neighbors in the village of Auburn. He sowed about one-half acre. It came up and grew nicely for a number of years While at first it appeared thick enough on the ground it gradually grew thinner until there was but little of it left. He cut it for hay and seed some three or four years.

"As a forage crop it was not equal to clover or timothy.

"It was in bloom at the same time there was a heavy crop of white clover in bloom, and therefore the bees did not appear to give it much attention. This we will call failure No. 2.

"The last experiment of which I have any knowledge was this: I spaded very deep a plot of bluegrass sod near my house and sowed some seed I had

brought with me from California. It came up nicely and grew for one or two summers and gradually died away without cause. And this was failure No. 3, and the last of my personal knowledge of Alfalfa."

Adjourned to 1:20 p. m.

1:20 o'clock p. m. Convened pursuant to adjournment.

The report of the committee on premium list was read by the Secretary, and on motion of the Secretary the committee was made a standing committee and the report referred back for their further consideration.

Reported later as follows:

PREMIUM LIST.

To the Executive Committee of the Illinois State Bee-Keepers' Association:

The undersigned committee on premium list beg leave to report as follows:

	1st Prem.	2d Prem.
Largest and best display of Comb Honey	$15 00	$10 00
Best case White Clover Honey, 12lb to 24lb	5 00	3 00
Best case of any other kind, 12lb to 24lb	5 00	3 00
Largest and best display of Extracted Honey	15 00	10 00
Best display of samples of Extracted Honey	5 00	3 00
Largest and best display of Candied Honey	5 00	3 00
Largest and best display of Beeswax	5 00	3 00
Best nucleus of Italian Bees in observatory hive	5 00	3 00
Best nucleus of any other race in observatory hive	5 00	3 00
Best display of Queen Bees, in cages	5 00	3 00
Best Honey Extractor, to be shown in operation	10 00	5 00
Best display of Apiarian Implements and Devices not otherwise provided for	5 00	3 00
Best Wax Extractor	3 00	2 00
Best Comb Foundation Machine, shown in operation	5 00	3 00
Best display Honey Plants, pressed and mounted, or in bloom, (labeled)	2 00	1 00
Best gallon of Honey Vinegar	2 00	1 00
Best Chart, representing enemies of bees	2 00	1 00

Signed: GEO. F. ROBBINS, Mechanicsburg.
S. N. BLACK, Clayton.
WM. J. FINCH, JR., Chesterfield.
A. N. DRAPER, Upper Alton.

Proceeded to the election of officers for the year 1892.

A motion, that the Secretary be authorized to cast the ballot for the present officers, was lost.

Election by ballot proceeded.

First—Balloted for President, resulted in the election of Hon. J. M. Hambaugh, of Spring.

Second—Balloting for five Vice-Presidents, resulted as follows:

1st, Mrs. L. Harrison, of Peoria.

2d, P. J. England, Fancy Prairie.

3d, Dr. C. C. Miller, Marengo.

4th, C. P. Dadant, Hamilton.

5th, S. N. Black, Clayton.

Third—Balloting for Secretary resulted in the election of Jas. A. Stone, Bradfordton.

Fourth—Balloting for Treasurer resulted in the election of A. N. Draper, Upper Alton.

Paper by A. C. Hammond, Secretary Illinois State Horticultural Society, Warsaw, as follows:

BEES IN HORTICULTURE.

"In the economy of nature it was ordered that the 'little busy bee' should be an important factor in making fruit growing successful. Many a man has planted and carefully cultivated, pruned and trained, but when he looked for fruit 'found nothing but leaves' and has therefore concluded that he is not a born horticulturist, or that this is not a fruit country, when a little investigation would have shown him that the failure was caused by lack of fertilization. The Wild Goose Plum and Crescent Strawberry are marked illustrations of this truth.

"Much can be done to overcome this difficulty by intermixing Staminate and Pistilate varieties, so that on the wings of the wind the fertilizing pollen will be carried from bloom to bloom. This is a wasteful method and ninety-nine hundredths of it is lost, to the great disappointment of the planter. But let a colony of bees be set down near the orchard or fruit garden and the busy little workers will, while extracting honey from the blossoms, cover their feet and legs with pollen, and when they go to the next blossom in search of its hidden treasures, leave it clinging to the delicate organs, and its influence will be seen in the larger crops of fruit.

"It will therefore be readily seen that the apiary is a valuable addition to the plant of the horticulturist, not only for the honey it may yield but as a means of increasing the yield and quality of his fruit, (imperfect fertilization often causes imperfect fruit) and therefore increases his profits.

"On the other hand the orchard, vineyard and garden afford excellent pasturage during several weeks in the spring, and during the entire season, from the first ripening strawberries through that of cherries, plums, peaches, grapes, pears and apples, they gather up the exuding juices from specimens that have been punctured by birds, grasshoppers and other insects.

"'O, yes,' says the man ever ready to jump at conclusions, 'I have seen them puncturing and sucking the juices from my grapes, peaches and plums, and sometimes even the apples, and think they do great injury.'

"Half the world go through life with their eyes shut, at least without making any careful investigations, and these heedless people, when they see the bees gathering up this wasting sweetness, thoughtlessly conclude that they have punctured the fruit to get the juice, while every entomologist and horticulturist knows that they never injure perfect fruit.

"It is therefore evident that these two industries are very nearly related and that every horticulturist should be a bee-keeper and to a certain extent every bee-keeper a horticulturist.

"There is to some minds an idea that spraying trees and plants to destroy insects is necessarily a blow at the life of the bee, as well as dangerous to human life and health. If done while trees are in bloom, I think there is no question as to the existence of this danger. But entomologists and horticulturists who have made careful experiments and watched the effects of arsenical sprays on bloom fruit and leaf, are unanimously of the opinion that it is worse than useless to spray until the bloom has fallen and the young fruit is as large as peas. It is about this time that the eggs of the Codling Moth are laid and hatched, and the minute particles of poison deposited in the calix are eaten by the young larva, and its days of mischief are suddenly brought to a close.

"If horticulturists and apiculturists would attend each others conventions and discuss these questions of mutual interest it would be found to be very profitable to both, and it is a satisfaction to know that they are becoming better acquainted and beginning to see that there is no antagonism between their interests."

A resolution was offered by Hon. J. M. Hambaugh and adopted.

Resolved, That each member of the Illinois State Bee-Keepers' Association be transformed into an information bureau, with the object of giving the Secretary such information as would enhance the interests of the pursuit and make the first report a model, and of incalculable benefit to the public.

Adjourned sine die..

Paper by Chas. Dadant, Hamilton, Ill.

BEE-KEEPING AND ITS DEVELOPMENT.

"When we came to this country from France, some thirty years ago, the number of bee-hives scattered among the farms was very small, so small, indeed, that it was impossible to buy honey anywhere except at the drug stores, who used to buy it from wholesale firms that imported it from Cuba, when it could not be purchased here from the bee-hunters.

"This strained honey, obtained by melting the combs containing the honey, together with bee-bread and sometimes larvæ, was dark, muddy and

unfit for table use in a majority of cases. It was only in extraordinary seasons that a certain amount of nice white comb honey could be obtained in broken and irregular pieces and sold in jars, or even pails and tubs. But the strained honey usually marketed was so uniformly dark and dirty that when we offered the first honey that we extracted, in 1869, to a Keokuk druggist, he eyed the sample suspiciously and said: 'I don't want any such stuff.' It was the very best quality of clover honey, but the man evidently took it for granted that it was sugar syrup, as he had never seen such bright strained honey before.

"The first success by the new methods created an exctiement, and many people rushed into bee-keeping to rush out of it, after a short trial, but the business underwent a great change. Bee-keeping became quite a specialty, in a few sections of the country the field is now sufficiently occupied to show what can be achieved, or rather what might be done if there were enough bees and bee-keepers to harvest the greater part of the honey that is produced by the flowers, and which positively goes to waste, being either reabsorbed by the plant that produced it, or otherwise returned to the soil whence it came.

"But the quantity produced to-day is probably equal to a ton for every pound that was produced thirty years ago. It took twenty years before the dealers in the large cities could be educated to call extracted honey by any other than the old appellation of strained honey, and it is only six or eight years since there are any quotations of extracted honey at all. Even at this date, there are comparatively few people who know the great difference that exists between the one and the other.

"The resources of our country are immense, and the fields now well occupied by bee-keepers are infinitesimal. To convey an idea of the resources in our State, Illinois, it is only necessary to speak of our own crops. The average yield of honey from our bees is about 22,000 pounds, and we occupy but a few square miles of territory. In the season of 1883 the honey actually harveated in Hancock county was estimated at about 200,000 pounds. Thirty-six thousand of this was our own crop and the county did not contain one-tenth of the bees that could have been kept profitably upon it, yet at this rate, the crop of the State would have been 15,000,000 pounds. There are thousands of low mashy lands that produce nothing but wild honey plants, and on which tons after tons of honey are wasted every year, waiting for the bee man with his little servants.

"The theory of the influence of bees on the fertilization of flowers, and consequently on the amount of the crop, has been so well demonstrated by Darwin and his disciples that it would be useless to expatiate on it.

"Although the honey resources of Illinois cannot compare with those of California, yet, as the flowers succeed one another, from early spring till fall, with the exception of a short stop in summer, the crop of honey is as reliable here as any other farm harvest.

"As soon as the winter weather grows milder the elms, willows, poplars, maples, hazel nuts, sumacs, horse chestnuts, dandelion, and many others attract the bees, either by their pollen or by their nectar, or by both.

"The happy humming of our pets working on the trees, still destitute of leaves, announce the return of spring.

"These first flowers are soon followed by those of the cherry, plum, peach and apple trees, &c. Yet these flowers, notwithstanding their large numbers, do not give any surplus honey, for all this crop is wholly consumed by bees to raise their young and fill their hives with innumerable multitudes of workers ready to gather the honey of white clover, which blooms along the roads and in all the pastures, and which gives the main crop of the State; a crop whose quality is unsurpassed.

"The clover blossoms are hardly passed away when the cottonwood begins to bloom, in the countries where these trees grow, as also a great variety of mints and other odoriferous weeds of the same family, and the milk weeds, &c.

"Such is the succession of spring flowers in average years; besides, when the weather is warm and damp the blooming of clover may continue till August, then the honey crop is exceedingly larger. Sometimes the cowllus of the red clover being shorter, or more filled with nectar, increases the harvest.

"The month of August, unless too dry, and September offer to bees a number of fall flowers: buckwheat, Spanish needles, willow herbs, sunflowers, asters, &c.

"The honey crop in the river bottoms comes from a great many plants and bushes, such as crow foot, button weeds, button bushes, gum trees, dog woods, marsh sunflowers, &c.

"Careful bee-keepers can enlarge their crop by sowing alsike instead of red clover in their timothy meadows, or by spreading in waste places, the seeds of sweet clover, catnip, &c. But we do not think it advisable to cultivate a tract of land for the honey crop alone.

"The consumption of honey has been keeping pace with its production, and even in the very disadvantageous circumstances in which the bee-keeper finds himself to-day, being in direct competition with the sugar producer, who has been allotted a bounty of two cents per pound, there is still some prospect for bee-keeping.

"But the injustice done him by giving a bounty to the producers of other sweets, cane and maple sugar, should be corrected. If these have a right to be helped by the general government, the bee-keeper has the same right, for the lower prices of all sweets is surely affecting the price of honey."

Paper by Prof. A J. Cook, of Agricultural College, Michigan.

BEES AS FERTILIZERS.

[Read at the Association for the Advancement of Agricultural Science, Washington, D. C.]

"Darwin's memorable researches and generalizations in relation to the fertilization and cross-fertilization of plants, through the agency of insects, are not the least of his many valuable scientific discoveries, nor yet are they least in their bearings on economic questions. His classic investigations settled the question of the great value of insects in securing full fruitage to many of our most valuable fruits and vegetables. Since Darwin, many scientists have, by crucial tests and experiments, abundantly confirmed his conclusions. Our most intelligent practical men have also made significant observations. They note a scarcity of insect visits to the blossoms of the first crop of red clover, and also its failure to bear seed. The alsike clover is freely visited in early June by the honey bee and bears a full crop of seed. In New Zealand the red clover failed to seed at all seasons, and there was a conspicuous absence of insects upon the blossoms, both early and late. This led to the importation of bumble-bees from England, to the earth's very limit, and now the New Zealand farmer produces clover seed. Gardeners keep bees to-day that their vegetables may fruit and seed more liberally. Even the producers of flower seeds in our cities keep bees in their greenhouses, as they find this the easiest and cheapest method to secure that more perfect fertilization upon which their profits depend. Secretary Farnsworth, of the Ohio Horticultural Society, could account for a very meager crop of fruit a few years since, in his vicinity, after a profusion of bloom, only through lack of pollenization. The bees had nearly all died off the previous winter. I have often noted the fact, that, if we have rain and cold all during the fruit-bloom, as we did in the spring of 1890, even trees that bloom fully are almost sure to bear as sparingly.

"Darwin's researches considered insects as a whole, and it is true that all insects that visit flowers, either for nectar or pollen, do valuable service in this work of pollenization. Thus many of the hymenoptera, diptera, and coleoptera, and not a few lepidoptera, are our ever ready helpers as pollenizers. Yet early in the season, in our Northern latitudes, most insects are scarce. The severe winters so thin their numbers that we find barely one, whereas we will find hundreds in late summer and early autumn. In late summer the bumble-bees and paper-making wasps number scores to each colony, while in spring only the one fertile female will be found. This is less conspicuously true of solitary insects, like most of our native bees and wasps; yet even these swarm in late summer, where they were solitary or scattering in the early spring. The honey bees are a notable exception to this rule. They live over winter, so that even in early spring we may find

ten or filteen thousand in a single colony, in lieu of one solitary female, as seen in the nest of bombus or vespa. By actual count in time of fruit bloom in May, I have found the bees twenty to one of all other insects upon the flowers; and on cool days, which are very common at this early season, I have known hundreds of bees on the fruit blossoms, while I could not find a single other insect. Thus we see that the honey bees are exceedingly important in the economy of vegetable growth and fruitage, especially of all such plants as blossom early in the season. We have all noticed how much more common our flowers are in autumn than in spring time. In spring we hunt for the claytonia, the trillium, and the erythronium. In autumn we gather the asters and goldenrods by the armful and they look up at us from every marsh, fence corner and common. In May our flowers demand a search, while in California the fields of January and February are one sea of blossoms. The mild California winters do not kill the insects. There a profusion of bloom will receive service from these so-called 'marriage priests,' and a profusion of seed will greet the coming spring time. Thus our climate acts upon the insects, and the insects upon the flowers, and we understand why our peculiar flora was developed. Yet notwithstanding the admirable demonstrations of the great master Darwin, and the observations and practice of a few of our intelligent practical men, yet the great mass of our farmers are either ignorant or indifferent as to this matter, and so to the important practical considerations which wait upon it. This is very evident, as appears from the fact that many legislators the past winter, when called upon to protect the bees, urged that fruit growers had interests as well as the bee men, not seeming to know that one of the greatest of these interests rested with the very bees for which protection was asked.

"Now that we understand the significance of the law of adaptation in reference to the progressive development of species, we easily understand why our introduced fruits that blossom early would find a lack of the 'marriage priests,' and why it would be a matter of necessity to introduce the honey bee, which, like the fruits, are not indigenous to our country, just as the bumble bee must go with the red clover, if the latter is to succeed at once in far off New Zealand.

"It is true that we have native apples, cherries, plums, etc. But these, like the early insects, were scattering not massed in large orchards, and very likely the fruitage of these, before the introduction of the honey bee, may have been scant and meager.

"Now that spraying our fruit trees with the arsenites, early in the spring, is known to be so profitable, and is coming and will continue to come more generally into use, and as such spraying is fatal to the bees if performed during the time of bloom, and not only fatal to the imago, but to the brood

to which it is fed in the hive, it becomes a question of momentous importance that all should know that bees are valuable to the fruit grower and the apiarist alike, and that the pomologist who poisons the bees is surely killing the goose that lays the golden egg. That bees are easily poisoned by applying sprays to trees that bear nectar-secreting blossoms at the time of bloom, can be easily demonstrated by any one in a very short period of time. It has been demonstrated in a frightfully expensive manner in several apiaries in various parts of the country. Several bee-keepers, whose all was invested in bees, have lost all their property, all because some fruit growing neighbor either thoughtlessly or ignorantly sprayed his fruit trees while in bloom; and this in the face of the fact that, for the best results even in the direction sought, the spraying should be deferred until the blossoms fall. I have demonstrated this fact where the results were entirely in sight. I have shut bees in a cage and given them sweetened water, containing London purple in the proportion of one pound to 200 gallons of water, and in twenty-four hours the bees were all dead; while other bees, in precisely similar cages and fed precisely the same food, with the poison omitted, lived for many days.

"We thus see that it becomes very important that pomologist and bee-keeper alike know the danger, and also know the loss to both parties in case caution is not observed to avoid the danger and probable loss. It is also important that, by definite experimentation, we may learn just how important the bees are in the pollenization of plants. To determine this point I tried many experiments last spring. I counted the blossoms on each of two branches, or plants, of apple, cherry, pear, strawberry, raspberry and clover. One of these, in case of each fruit or each experiment, was surrounded by cheese-cloth just before the blossoms opened, and kept covered till the blossoms fell off. The apple, pear and cherry were covered May 4, and uncovered May 25 and May 19. The number of blossoms considered varied from 32, the smallest number, to 300, the largest. The trees were examined June 11, to see what number of the fruit had set. The per cent. of blossoms which developed on the covered trees was a little over 2, while almost 20 per cent. of the uncovered blossoms had developed. Of the pears not one of the covered developed, while 5 per cent. of the uncovered developed fruit. Of the cherries 3 per cent. only of the covered developed, while 40 per cent. of the uncovered blossoms set their fruit. The strawberries were covered May 18 and uncovered June 16. The number of blossoms in each experiment varied from 60 in the least to 212 in the greatest. In these cases a box covered with cheese-cloth surrounded the plants. The plants were examined June 22. Eleven per cent. of the covered blossoms and 17 per cent. of the uncovered had developed. To show the details, in one case 60 blossoms were considered, 9 of which in the covered lot, and 27 in the uncovered, had developed. That is, three times as many flowers had set in the uncovered as in the covered. In another case of 212 blossoms the fruit numbered 80 and 104. In a case of 123 blossoms the number of fruit was 20 and 36.

"These experiments agree with similar ones of former years, in seeming to show that strawberries are less affected than other fruit by the exclusion ot insect visits. The raspberry canes were covered with cheese-cloth May 30 and uncovered July 6. In every case but one the canes seemed to have been injured by the covers, and so the results were not considered. In the exceptional case 184 blossoms were considered; 93 blossoms developed on the covered canes, and 160 on the uncovered. In every case the fruit on the covered twigs were inferior. It might be thought that the simple presence of the covers was prejudicial; though this could not be a very important matter, as blossoms covered after the bees had freely visited them set well, and showed no injury. Thus we see that in all out fruits—strawberries the least —the free visits of insects during the period of blooming is absolutely essential to a full or even a fair crop. In many cases the covered blossoms all failed to develope. We also see that where fruitage does occur, there seems a lack, as the fruit lacks vigor. The free and ample *cross fertilization* seems to be requisite, not only for a crop, but for a perfect development and maximum vigor.

"Our experiments with clovers were tried with both the white and alsike. While the uncovered heads were full of seeds, the covered ones were entirely seedless. This fully explains the common experience of farmers with these plants.

"Having the law of the necessity of insects to accomplish this function so well demonstrated, it might be asked: 'Why do we have *any* fruit in case the blossoms are covered?' This seeming exception may be no exception. Indeed this may come from the fact that *all* insects are not excluded. Very small insects, like the thrips, and various of the jassidæ, which we know are often attracted to flowers, either by the pollen or nectar, would be concealed about the plants, and, from their small size, might gain access, even after the covers were adjusted. These would be sufficient to secure partial fertilization, and very likely are the cause of the meager crop, which, in a few cases, we secured even on the covered twigs.

"In case of strawberries, our experiments this year, like some previously tried, seemed to show that the presence of insects, though important to a maximum production, are not so necessary as in case of nearly all other fruit. But we must remember that the strawberry plants are not wholly inclosed. A cloth-covered box rests on the ground about the plant. This gives a fine chance for insects that burrow in the earth, and for insects that have pupated in like position, to come up during the three or four weeks' of the experiment, and pollenize the blossoms. This, though a possible, and (shall I say?) a probable explanation, may not be the real one. But we can still affirm, in case of the strawberry, that the free visits of insects serve surely to much enlarge the production of fruit.

"Thus we see that our horticulturists and farmers alike, with the apiarist, are dependent for the best prosperity on the presence and well-being of the

bees. They should realize this fact, and should demand that our legislators not only become informed, but act accordingly.

Agricultural College, Mich. A. J. COOK."

[We believe this paper to be the best in point of definite facts, and most comprehensive of anything we have ever read. It is so valuable that every reader of this journal should peruse it carefully, that he may be able to talk intelligently to his farming and fruit growing neighbors who unfortunately, in many cases, regard bees as a positive detriment to the proper maturing of fruit. Almost every year we come across farmers in the vicinity of our home apiary and out-yards who *persist* in saying that our bees are responsible for their trees not fruiting, and so this sort of ignorance is gaining currency in many localities, much to the detriment of the bee-keeper and fruit grower. This ignorance, and perhaps prejudice, should be dispelled by solid facts, such as Prof. Cook gives; and we hope our agricultural exchanges, and journals devoted to fruit-growing in particular, will give this paper of Prof. Cook's a wide circulation. We shall be glad, also, to send extra sample copies of this journal for bee-keepers to distribute among their neighbors who need a little "posting." That the good work may continue to go on we have decided to make this article over into a leaflet for general distribution. To cover bare cost and postage, these leaflets will be sent to all who apply, for 5 cts. for 25; 10 cts. for 50; 25 cts for 200; 60 cts. for 500, or $1.00 per 1,000, postpaid. Now let bee keepers do a little missionary work for themselves and neighbors, and thus avoid, in some cases, these unpleasant clashings between the bees and the fruit.] E. R.

The following is a clipping from the Prairie Farmer of February 27, by Mrs. L. Harrison, of Peoria :

FARMER BEE-KEEPERS.

"Farmers, you should be bee-keepers, every last one of you—I'll make no exceptions. Don't like honey, eh? Gives you a pain in the stomach? Suppose it does; I expect that you ate some gathered from lobelia. Bees do not make honey, as some suppose, but gather, evaporate and can it up. The bees ran the first cannery in existence, and ran it successfully, too. Now, just for the fun of the thing, and to please me (if you get a chance), eat some pure white clover honey and see if it disagrees with you; my word for it, it will do no such a thing.

"A few years after my husband and I were married I slyly hinted that I would like to have some bees. I was met with a rebuff something like this: 'Bees! what upon earth do you want bees for? You attend to things indoors and I will see to outside affairs.' But tell a woman she can't have a thing and she will lay awake nights planning how she can get it. Another reason drought forward why I should not keep bees was that neither of us could eat honey. In the early days of our housekeeping we had bought some honey

from a German farmer who had taken up a 'gum,' dug out the contents, brood-combs, bee-bread, etc., with a good deal of the etc. We kept this honey in a gallon crock and when either of us had a cold would eat some of it, which was soon followed by pain in the stomach, and we jumped to the conclusion that we could not eat honey—even a quarter of a teaspoonful would cause pain. Neither of us had seen a section of white honey at that time and but little honey stored in boxes. During the first two years of my bee-keeping I never tasted honey, fearing pain if I did. One night while suffering with a severe cold I read in a bee paper of the curative qualities of honey for a cold. I made some mint tea and cut from a box about a pound of choice white clover honey and commenced drinking the tea and eating the honey and then retiring, slept the sleep of the just. Ever since then I have eaten honey sick or well, night or day, in cold weather or warm, and have felt no inconvenience from it. 'My son, eat thou honey because it is good.'

"Farmers cannot thrive without bees. You all like to have fat, sleek cattle and plenty of milk and butter. You know the value of white clover in your pastures, do you not? White clover will not produce seed unless the bees fertilize the bloom by carrying the father dust from flower to flower. Red clover is dependent upon bumble-bees for fertilization in a great measure, and they should receive more encouragement from farmers than they do. Why not stroke their glossy backs in lieu of sending boys to burn or dig out their nests? They are your friends and helpers, and would it not be better to mark their nests and shut them in by covering their holes with a box when plowing or other work is to be done near them, and thus prevent them from stinging the horses.

BEES TO FERTILIZE FRUIT.

"It used to be said of Western farmers that they lived upon hog and hominy. This may have had a shadow of truth in the early settlement of the country, for it takes time to raise fruit. A settler could break up the ground and raise corn to fatten a pig the first year. Then as soon as he could command a little money he would buy fruit trees and endeavor to get the comforts of a home similar to the one he left farther East. I have seen early settlers ravenous for fruit; they would hitch up their teams and drive many miles to gather wild blackberries, and in the fall scour the woods along streams in search of plums, crab-apples and wild grapes.

"Everyone who has a home, either in town or country, should keep a few colonies of bees for their own benefit and for the good of the land in which we dwell. If you have had no previous knowledge in bee-culture, do not buy more than two colonies. Engage them now before you forget it, for spring is the best time to get them. Choose hives running over with Italians and you will never regret the day you brought them home."

A paper read by the Secretary at the Farmers' Institute :

"At the formation of this Institute one of our members was very desirous of having the subject of cattle breeding treated by one who could tell us how it could be done in a way to make it a financial gain.

"Now, Mr. President, while we are expected to talk about bee-keeping, we are not going to say that it is the only avocation that has any money in it, for we do not think so. We think it is like a good many other things in which farmers engage. We are not advocates of specialties. We believe in mixed farming.

"While we hear farmers saying that stock breeding in some particular line does not pay, we would say to them, mix it up with something else in a way that it *will* pay. If the raising of cattle and hogs requires corn, and the producing of corn impoverishes the soil and in that way degenerates the value of the land, then raise sheep, and for the sheep raise clover.

"Now, we claim that a flock of sheep on a farm (say 50 sheep to 100 acres of land) will cause that farm to produce enough more, than it would without them, to make their product clear gain.

"Then in addition to sheep and clover, with the soil always ready for a large crop of corn, you can bring in you hogs, which do not object to the clover, while they depend largely upon the corn.

"Then comes our orchards, that you can say do not pay us anything. But I expect our brethren, that will follow us on the fruit question, will tell us how it can be made to pay at least something.

"Now, by this time I expect some of you are wondering what this all has got to do with bee-keeping. We will tell you. In order to raise stock of any kind we first look out for their pasturage. This is what we have been doing. Our orchards are not only pastures for bees, but bees are a necessity in the cross-fertilization of blossoms, without which there would be no fruit. We had a case of evidence a year ago last spring. Trees blossomed full, but it was so cold that the bees could gather no honey at the time their work of fertilization should have been done, and the result was very little fruit. Horticulturists must learn that the honey-bee is one of his best friends.

"Scientists are learning that nature abhors self-fertilization, and that there are no plants that bear seed or fruit without some agency in cross-fertilization, and that while the wind or some other agent can be the carrier of the fertilizing dust from one flower to another, yet it is agreed that the honey-bee performs vastly the largest portion of this work.

"While the honey-bee is of such value as a fertilizing agent why not yoke him in and compel him to work further to our gain, by utilizing what he gathers while performing his useful part of fruit and seed producing.

"As for the importance of bee-keeping we will say that after the Illinois State Bee-Keepers' Association was organized the Legislature gave us an annual appropriation of $500 for the publication of our annual report (which

is now in press) as an acknowledgement of the importance of bee-keeping in the State of Illinois. We will see from this report that the honey product of the State runs up into the millions of pounds annually, and could be multiplied many times if all our resources were improved."

We take the following from the Honey Almanac. published by Thomas G. Newman, of the American Bee Journal, of Chicago:

EFFECT OF HONEY ON THE HUMAN SYSTEM.

"The masses do not realize the value of honey from a hygienic stand-point else it would have more than kept pace with sugar as an article of human consumption.

"Dr. Vance makes such very excellent remarks on this subject that we can do no better than to give them entire: 'Honey is a physiological sweet; in other words, its constituents are such that it is absorbed into the blood without undergoing chemical change. Such is not the fact with regard to sugar. Sugar is indigestable, or rather not as susceptible of absorption and assimilation as honey, but it requires the action of the gastric juice to split or invert its elements, the muriatic acid element of the gastric juice being the chief agent in this chemical transportation. This change produces what is termed in chemistry dextrose and lævulous. I presume this explanation does not convey a very clear or definite idea of the nature of these products, for the names applied only indicate how they affect polarized light. After this change occurs absorption takes place. If in any way it is hindered, or, on account of an excess of sugar above the capacity of the gastric juice to transform, there remains a residue, the result is decomposition into elements that irritate and inflame the mucus membrane of the intestinal canal, producing a list of ailments too numerous to mention here. Think of the legions of little ones who have been the victims of their universal fondness for sweets, and who so frequently suffer from the gastric troubles which are, in a large degree, the result of sugar indigestion. How many, many children have perished from eating candy?

"The importance of sugar as an element of food may be inferred from the large proportion of the elements of our food which is transformed by the action of the digestive organs, into the constituents of sugar. Consider the proportion of bread, potatoes and vegetables that we consume daily, all of which must undergo this saccharine change before they are suitable to be appropriated to the human system; it may give an approximate idea of the amount of these elements that are required to nourish our bodies.

"If, therefore, the saccharine comprises so large a part of the elements of our food, does it not become an important question as to what form of sweet is the most appropriate and healthful for the nutrition of the human body? For the reason I shall hereafter enumerate, it seems to me that you will agree with me that honey is the most important and the most healthful

because it is absorbed into tho system without change, and, because, unlike sugars, it does not easily undergo fermentation. The formic acid which is an ingredient of honey prevents chemical change and the morbid processes arising from decomposition of sugar.

"Let me repeat the points of difference in ordinary sugars and syrups, and their comparative inferiority to honey as a saccharine food. Honey is an inverted sugar consisting of lævulose(fruit-sugar) and dextrose(starch-sugar)and readily absorbed into the system without being acted upon by the gastric juice, converting, as it is expressed in chemical language, inverting it into dextrose and lævulous before it is susceptible of absorption aud assimilation in the blood. When thus acted upon by the digestive organs, it is assimilable, but in case of weakness of digestion, this action does not occur, and decomposition is sure to follow. Honey is not only a delicious form of sweet but is a very healthful and nutritious form of food. It aids the natural functions of the alimentary canal. It is recommended by those who have thus used it, as a refreshing drink, diluted with water in the proportion of from 2 to 5 per cent.'

"Pure honey should always be freely used in every family—honey eaten upon wheat bread is very beneficial to health.

"Further, in regard to bee-pasture we will again speak of clover. The same pasture that is best for sheep is best for bees, and that is Alsike clover. The value of this plant to the bee-keeper makes it worth his while to extend its culture in every possible way. In inducing his farmer neighbors to grow it he not only benefits himself but also his neighbors as well. Few appreciate its value. Rightly managed it may be made to yield three products—honey, hay and seed. Which in a little more than a year are equal in value to the land on which it grows.

"With suitable soil and in competent hands ten bushels of seed to the acre is a possible yield, which at the present prices ($7.50 to $9 per bushel) will purchase an acre of good farming land almost anywhere. Then there are, besides the seed, the hay and honey. What is honey? It is a vegetable product, not made, but gathered from flowers where it is secreted according to the rules of nature. Each flower yields honey of its own peculiar flavor which is generally recognized. It is a common expression that honey is a luxury, having nothing to do with the life giving principle. This is an error. Honey is food in one of its most concentrated forms. True, it does not add so much to the growth of muscle as beef steak, but it does impart other properties no less necessary to health. It gives warmth to the system, arouses nervous energy and gives vigor to all the vital functions. To the laborer it gives strength, to the business man mental force.

"Mr. Teft offers the following :

"Sweeten your tea and coffee with extracted honey and if you are troubled with gravel it will cure you. It is a true brain and nerve food and

tonic. It improves the appetite, tones the system, and has proven to be of great value in many diseases, producing a contraction of the muscles, of the digestive organs, and as an aid to digestion it is wonderful in building up lost power. It is a cheap remedy for the consumptive, and, in fact, should take the place of sugar in many things.

"What is more delicious than bread broken up in a bowl, covered first with honey and then good rich milk. It gives the whole system a feeling of rest and delight. Milk neutralizes any ill effects this sweetness may produce in the human stomache.

"It is an excellent remedy for the Grippe and all throat and lung affections, and also can be used in all kinds of cooking requiring sweets.

"Now, Brethren, we have named a few good reasons (as we believe) why bee-keeping would be profitable in mixed farming.

"While many are crying farmers are making nothing, those who have fruit to eat and sell, the same of honey and the other things we have named in our mixed farming, will come out far ahead of nothing, for large things are made of many littles."

A. N. Draper, of Upper Alton, Ill., visits the Turkey Hill Bee-Keepers' Association on Wednesday, March 2. We extract the following from his letter to us after the visit:

"On my arrival at the Turkey Hill Grange Hall, where the meeting was to be held, and after I had had a hearty hand-shake all around and we stood warming ourselves by the fire and discussing some of the hives brought there for that purpose, we noticed the young men and young ladies were preparing us a feast of fat things. It was not long until the table was fairly groaning under its load of good things; around which we were presently invited to be seated. After Mr. Hertel had returned thanks we proceeded to do ample justice to the excellent viands prepared by the lady bee-keepers.

"While the men were feeding their horses (in the sheds for that purpose which belong to Grange) I made examination for white clover around the campus. You will find none—or very little—said Mr. Flanagan. There is but very little in this country this season. I looked everywhere I had an opportunity while at or in the neighborhood and found his statement correct. When we returned to the hall we found the table and all signs of the recent feast cleared away.

"The Turkey Hill Bee-Keepers' Association will please come to order! called President Miller, with A. G. Fehr, Secretary.

"After the business was attended to an essay was called for by C. P. Dadant. But it had missed connections somewhere.

"Then an essay was read from a gentleman in Iowa who had formerly been in Belleville.

"Mr. Dintelmann begged oft on account of having read an essay on the same subject at a former meeting.

"Your humble servant was then invited to read an essay on moving bees for the average bee-keeper to increase the honey flow. I took the ground that it wouldn't pay. Then Mr. Hertel followed with an excellent essay on bee-keeping for the average farmer. After discussing various points in bee-keeing President Miller called on 'Brother Draper' to explain the objects, purposes and intentions of the Illinois State Bee-Keepers' Association. I hardly know whether I can fully explain all their ideas and intentions, I replied. But I'll do the best I can. The intention is to do all the good that we possibly can and as little harm as possible; not only for the cause of bee culture in the State of Illinois, but for the whole country, as our interests are virtually the same the country over. I am satisfied that if we had been thoroughly organized in time we could have got all we asked for. As it is we will not receive any appropriation for the World's Fair. We failed with the Legislature because we did not begin in time. We have failed with the Agricultural Committee because we are not organized all over the State. Today Madison county has more members in the Illinois State Bee-Keepers' Association than all the rest of the State put together. It is true, that through the heroic efforts of Mr. Hambaugh and some of his friends there has been an annual appropriation of $500 secured to publish a report of the proceedings of the Society. You, here in St. Clair county, have just as much right to the benefits to be derived from this Association as any bee-keepers in the State. All you need to do is to contribute your membership fees and become members, when you will have all the privileges and benefits that there are in it. Well, 'Can we not affiliate as a society? and then have our proceedings published along with the proceedings of the State Association? the same as the horticulturists do it?' I believe you can, but I am not certain, as I hardly think there has been any action taken on that point yet. However, I would advise that as many of you as possibly can join as members and we will try and have this idea incorporated along with the proceedings of the State Association.

"The following gentlemen then handed me $1 each, as membership fees to the Illinois State Association: E. T. Flanagan, Belleville; Peter Miller, postoffice box 832 Belleville; Chas. Hertel, Freeburg; L. F. Dintelmann, postoffice box 781 Belleville; Jacob Leibrock, Mascoutah; A. G. Fehr, Belleville. The Association then appointed five delegates to attend the next meeting of the State Association. I wish not only all the local societies in the State would follow this example, but also all the Associations in the neighboring States.

" 'Where will the next meeting be?' Either at Springfield or Chicago. 'Why do you have it away off at one side of the State?' The Northwestern Association had its headquarters at Chicago. It proposed that if the Illinois State Association would hold one meeting a year in Chicago it would cease to exist and give the entire field to the Illinois State. This proposition was accepted. So that we hope to secure all the old members of the North-

western. The meetings at Chicago will probably be very interesting on this account. And I would earnestly advise all of you who can to attend the meetings at Chicago.

" 'Won't this meeting detract from the interest of the meetings at Springfield?' Judging from our meeting at Springfield in December I should say most emphatically, No! What we need to do is to make our meetings at Springfield so interesting that every bee-keeper in the State, and everywhere else, will attend them. In fact make them so good that no bee-keeper will be kept away on any account.

"Then followed the election of officers for the ensuing year. When the Association was adjourned.

"This was the most enjoyable meeting of bee-keepers that it has ever been my good fortune to attend.

"Several of the bee-keepers present invited me to go home with them and remain over night. I finally accepted Mr. Flanagan's. Mr. Dintelmann rode home with us. He is the man that made the translations of those interesting articles from German that have appeared in *Gleanings* from time to time. I found him to be a real interesting companion. On our ride into Belleville Mr. Flanagan invited him to spend the evening with us, which he did.

"In going to Mr. Flanagan's residence we noticed a large factory near by. 'That is the Belleville steel works. They manufacture Bessemer steel rails and plates and other necessary fixtures for railroad tracks. 'I want you to visit it after supper'; which we did. And I found it very interesting. I wish you would tell me your experience with foul brood. Didn't you have quite a time with it when you took your bees South? 'Yes, sir. I have lost thousands of dollars from the ravages of foul brood, but I am entirely clear of it now.' He told me all about his experience with it and in moving, &c. The next morning we looked at his vinyard and his orchards, at his raspberry patch, carp ponds (he has three of them). 'Do you see that little clump of trees over yonder? That is where I was born' Then in his shop I looked at his comb foundation machines, at his wax, &c. Do you make all the foundation you sell? 'No, sir. I buy of the Dadants. However, I make some of it.' He then showed me a large lot that he had in stock, besides over two carloads of dovetailed bee hives and a half a carload or more of very fine sections. What in the world are you going to do with all this stuff? 'Sell it. Last year I ran out of supplies and got behind with my orders. I don't intend to get behind this season.' His shop, house, barn and warehouse were jammed full of the various different kinds of the most modern bee supplies. 'Well, Mr. Draper, I want you to go with me and see my friend Fehr before you leave. We have plenty of time yet before your train will leave.' In a very short time we were spinning along the beautiful streets of Belleville behind a splendid colt. We pulled up in front of a beautiful store with the sign A. G. Fehr, florist. 'Is Mr. Fehr in?' asked Mr.

Flanagan. 'No, sir. He is at the greenhouses.' 'All right, then I know where to find him.' A short ride took us to his home. After looking through half a dozen greenhouses we found Mr. Fehr busy watering his plants with a long hose and a spraying attachment at the nozzle. His houses were warmed with two engines. He had a large cistern under two of the central houses filled with water and gold fish. Large quantities of carnations in bloom, roses, tulips, hyacinths, violets, &c., made a very attractive appearance. Then we looked at his apiary, which consists of ten or a dozen hives from there to his poultry yards. He had some magnificent Light Brahma chickens. I was so well pleased with them that I ordered a setting of eggs, forthwith. 'Mr. Draper we must go as it is train time.' By noon I was at Alton again. It was a bright, warm day. When I was within a quarter of a mile of home (this was on March 3) as I was passing under a soft maple tree I was astonished to hear bees humming. On looking up I found the tree was fairly swarming with bees. On looking closer the tree was in full bloom. The bees seemed to be on the ground and over the grass just as thick as in the tree. I wondered if there was so much honey in the flowers that it had been dripping over the grass in sufficient quantities to attract the bees. A closer examination convinced me that such was the case. When I arrived at home I was quickly among the hives and found that honey was coming in rapidly in the strongest hives, while the weaker ones were getting but little.

NORTHWESTERN BEE-KEEPERS' CONVENTION.

W. Z. HUTCHINSON, SECRETARY, FLINT, MICH.

The bee-keepers of the Northwest held their annual meeting at the Commercial Hotel, in Chicago, on Nov. 19 and 20.

The convention was called to order at 9:45 a. m., with President Miller in the chair. The exercises were commenced with a prayer by A. I. Root.

HONEY QUOTATIONS AND GRADING.

Thos. G. Newman—Commission men are buying honey much more than in the past. - They are buying instead of selling on commission.

A. N. Draper—This may be the result of a small crop. When there is a small crop they buy, when the crop is large they sell on commission.

President Miller—Why does not comb-honey sell for more than 16 cents when there is such a scarcity?

E. T. Abbott—Many commission men in St. Louis do not distinguish the difference between poor and good honey.

President Miller—I often get higher prices for honey than those given in the quotations. Others have reported similarly. This is an injury to us. Men see the quotations and sell at home at low figures. What can we do about it?

Thos. G. Newman—We send out postal cards all ready to fill out to dealers, and try to give fresh reports.

A. I. Root—This is substantially what we do.

W. Z. Hutchinson—It looks, on the face of it, as though the commission men reported honey too low. I know a man who sent honey to a commission man in Chicago. This dealer was quoting honey at 15 cents, yet the honey was soon sold at 18 cent.

Geo. E. Hilton—The honey in Northern Michigan is of excellent quality this year. It is from the great willow herb. There are thousands of acres of this plant 25 miles north of me. I think we confer a benefit on producers when we go about among them and buy their honey at a shilllng a pound.

B. Taylor—I want to put myself in opposition to any attempt at "cornering" honey. There is never any corner on any product until it has passed out of the hands of the producers. I sell my own honey. Not near home, however. I load a car and push out west. In Minnesota the quotations are not above the prices paid.

E. T. Abbott—Suppose we ask dealers how much they will pay for honey?

A. N. Draper—Honey is often quoted too low. The market reports are made up of quotations upon different articles. I think the honey quotations are taken from the price-current sheets.

President Miller—They do not do this.

G. K. Hubbard—Why not ask dealers to say for how much they have actually sold honey?

Thomas G. Newman—They will not do this. They say: "We quote honey so and so," but they do not give reports of sales.

President Miller—I do not say it to boast, but I suppose I once raised the price of honey 2 cents a pound in Chicago. I went around to the papers and showed them I had made actual sales at 2 cents above the quoted prices, and the papers put up their quotations.

M. H. Mandelbaum (with S. T. Fish & Co.)—I will fill out any blanks that the bee-periodicals will furnish.

A. B. Mason—I see no objections to dealers saying for how much their honey is sold.

E. T. Abbott—I do not care to tell at what figures I sell honey. I am willing to tell what I pay, but it is nobody's business what I sell it for.

President Miller—We are mixing things. I think Brother Abbott is willing to tell what he pays for his honey.

E. T. Abbott—Certainly.

President Miller—If a man is selling on commission, it is also proper that he should tell at what price he sells. If he buys and sells, it is, as Brother Abbott says, nobody's business at what price he sells. In connection with this matter, there is the question of grading honey. How should the different grades be distinquished?

Thomas G. Newman—Many of the troubles we have been discussing arise from the lack of a standard in grading honey.

A. I. Root—We have no end to troubles and losses because the honey sent us as first-grade honey is not what we call first-grade.

On motion of A. B. Mason, a committee of seven was appointed to draft a standard of grading for honey. The committee appointed was as follows: A. B. Mason, M. H. Mandelbaum, George E. Hilton, Byron Walker, M. M. Baldridge, Mrs. L. Harrison and W. Z. Hutchinson.

PAYING DUES.

A recess was now taken when the following members paid their dues:
Thomas G. Newman, Chicago, Ill.
C. C. Miller, Morengo, Ill.
J. S. Seeley, Oswego, Ill.
M. M. Baldridge, St. Charles. Ill.
E. T. Abbott, St. Joseph, Mo.
E. Whittlesy, Pecatonica, Ill.
J. M. Hambaugh, Spring, Ill.
Chas. E. Hilton, Fremont, Mich.
A. I. Root, Medina, Ohio.
I. Schirer, Petona, Ill.
A. N. Draper, Upper Alton, Ill
M. H. Mandelbaum, Chicago, Ill.
B. Taylor, Forestville, Minn.
Frank Seeley, Yorkville, Ill.
W. C. Lyman, Downer's Grone, Ill.
Byron Walker, Capac, Mich.
W. A. Vance, Glencoe, Ill.
O. O. Poppleton, Hawk's Park, Fla.
G. K. Hubbard, Ft. Wayne, Ind.
J. C. Wheeler, Plano, Ill.
W. Z. Hutchinson, Flint, Mich.
John Rehorst, New Hampton, Iowa.
W. P. Fulmer, Wheaton, Ill.
N. Strainінger, Tipton, Iowa.
A. B. Mason, Auburndale, Ohio.
J. H. Larrabee, Agricultural College, Mich.
Frank Blecka, Elgin, Ill.
E. S. Hubbard, Oil City, Iowa.
A. Y. Baldwin, DeKalb, Ill.
C. P. Dadant, Hamilton, Ill.
N. L. Stow, South Evanston, Ill.
G. W. Redmond, Paris, Ill.
R. R. Murphy, Garden Plains, Ill.
J. A. Green, Dayton, Ill.
R. A. Burnett, Chicago, Ill.
E. W. Farrar, Downer's Grove, Ill.
J. Forncrook, Watertown, Wis.

LADY MEMBERS.

Mrs. L. Harrison, Peoria, Ill.
Mrs. G. K. Hubbard, Ft. Wayne, Ind.
Mrs. N. L. Stow, South Evanston, Ill.
Miss Emma Wilson, Monrengo, Ill.
Miss Zetta Strong, Ottawa, Ill.

APIARIAN EXPERIMENTS AT LANSING.

When the meeting was again called to order, President Miller said that the Secretary had informed him of the presence of Mr. J. H. Larrabbee, who has charge of the apiarian experiments at the Agricultural College of Michigan, and he (the Secretary) had suggested that perhaps Mr. Larrabee would like to have bee-keepers tell him what experiments they would like to have him try. For one thing the President would like to learn what Mr. L. had already done.

J. H. Larrabee—We have made some experiments to determine how many pounds of honey are consumed in secreting one pound of wax. We have also decided not to experiment further in planting for honey.

J. A. Green—Why have you so decided?

J. H. Larrabee—It takes too many acres of plants to do any good. We had eight acres of rape near the apiary, but it seemed to furnish no honey.

O. O. Poppleton—Practical bee-keepers decided long ago that it did not pay to plant for honey alone. But an experiment of even eight acres of rape for one year is not conclusive. Some years the fields are white with the bloom of clover yet no honey is secured.

President Miller—I think it would be well if the results of these experiments could be given monthly. Many who read them might thereby get helpful hints, or might be able to help the experimentor in a similar manner. Perhaps the Secretary of Agriculture might not like to have Mr. Larrabee "give away" this matter in advance of his report to the Government, but I presume the Secretary does but little reading of the bee-periodicals, and probably would know nothing of the matter.

J. H. Larrabee—It is Dr. C. V. Riley to whom I report. I presume he reads bee-literature more or less. It is quite likely he would not object to my giving in advance to the bee-periodicals the results of my experiments. It would certainly do no harm to ask him.

Upon motion of J. A. Green the Secretary was instructed to write to Dr. Riley and ask permission for Mr. Larrabee to publish in advance, in the bee-periodicals, the results of experiments when he thought best to do so.

CONTRACTION OF THE BROOD-NEST IN WINTERING.

In reply to a question C. P. Dadant said he did not contract unless the combs were empty, or the colony weak. His hives contain nine Quinby frames. If the bees occupy seven combs he would not remove any.

A. I. Root—I do not advocate eight frame hives, but you know the boys do. They say that taking off the upper story contracts sufficiently for winter.

President Miiler—I have about concluded that the man who uses eight frame hives must feed the bees in the fall or spring—perhaps both.

A. I. Root—Would it not pay better to contract and get the honey in the sections where we can sell it for 18 cents, and then feed up on granulated sugar?

C. P. Dadant—We have found it pays better to leave in plenty of honey, as the bees breed up better in the spring.

President Miller—Is a comb full of honey that will not be used in the winter or spring of any advantage?

O. O. Poppleton—Yes; it gives the bees confidence to go ahead and use what honey they need.

B. Taylor—I am willing to go to the trouble of taking out any extra comb in the fall, and returning it in the spring. A comb not covered with bees can be kept much better out of the hive. The more completely the combs are covered with bees the better, provided there is sufficient stores. It is surprising to see into how small a space bees can be crowded in the fall.

VERBAL STATISTICS.

President Miller said that after reaching home and reading over a report of a meeting we often find that some man was there whom we were particularly anxious to meet, but we did not know he was there. If, by means of a badge, or some other manner, we learn that a stranger whom we meet is bee-keeper, we immediately wish to know, and probably ask his name, then his place of residence, next how many colonies he has, then how much honey he secured this year. That is about the way it goes.

He proposed that each one stand up in turn and tell his name, residence, number of colonies and yield per colony. This was done and proved quite interesting, as well as amusing in some instances. If this could be done sometime during the first day, it would help some in making acquaintances.

PREVENTION OF SWARMING.

A. I. Root said: Get a race of bees that will not swarm, the same as we now have non-sitting strains of poultry.

President Miller—Is not the thing possible?

O. O. Poppleton—I have several times tried buying queens that were cracked up for this or that—among other things that of non swarming—but I have quit it. It is no go.

J. A. Green—Bees may not swarm for a year or two, then they go at it again.

C. P. Dadant—For 15 years we have had very few swarms. We give plenty of empty comb in which to store the honey. If we wait until the bees have the swarming fever before giving the room, it will not prevent swarming. Excluding the queen from a portion of the hive also has a tendency to cause swarming.

J. A. Green—I did not have a swarm from 60 colonies where queen-excluders were used.

W. Z. Hutchinson—For three years I have sold my tested queens in the spring, replacing them with young queens from the south. When the young queens were introduced before the swarming fever set in no swarming followed. In only one instance did a swarm issue, and then the queen was imperfect in some respect. She laid only a few eggs and the bees seemed dissatisfied.

C. P. Dadant—The presence of drones has a great influence on swarming. One reason why bees with a young queen are less likely to swarm is that a young queen does not lay so many drone eggs.

J. A. Creen—I think something might be done with traps in the way of getting drones out of the hive.

C. P. Dadant—It is better not to rear them.

B. Taylor—I am inclined to agree with Brother Dadant that drones have a great influence on swarming. I also got some hints from his idea on keeping a swarm a while before returning it to its hive.

DO BEES INJURE CROPS BY TAKING AWAY HONEY.

A. I. Root—I believe Professor Cook has answered this question in the papers by saying that they do not.

B. Taylor—Bees are needed to fertilize blossoms, and nature commits no fraud.

President Miller—We are inclined to decide as we wish it to be. If we say that honey is evaporated if the bees do not gather it, it is nonsense. I saw honey last winter in blossoms that had faded in my room.

J. H. Larrabee—If the nectar is found dried down, it is proof that the plant does not appropriate it.

President Miller—Perhaps the honey left in the blossom is a benefit to the stock that eats the hay. There is no doubt that the gathering of the nectar is a benefit, on the whole, but let us not say that the carrying away of the nectar is no injury to the plant.

C. P. Dadant—The blossoms yield honey and an essential oil. The latter gives the perfume. The oil and water may be evaporated, but the saccharine portion of honey cannot be evaporated, as we all know.

BEES INJURING GRAPES.

A. I. Root—In California bees destroy grapes while they are being dried into raisins. This has become so serious a matter that in many places the bees are moved to some other locality.

A. B. Mason—One grape-grower near Cleveland told me that the absence of bees caused him a loss of $500 in one seoson. Whenever a grape cracks it soon spoils. The bees suck the juices from the cracked fruit and save the labor of removing the injured fruit.

C. P. Dadant—Bees cannot bite. They can take hold of any fibre, in a fibrous material, and pull it out. They cannot bite the smooth surface of a grape any more than a man can bite a piece out of a plastered well.

President Miller—Last year when there was nothing for the bees to gather they did not eat the grapes. If they could why did they not do it.

FINDING QUEENS.

The question was asked: "How long will it take to find the queens in fifty colonies early in June?"

J. A. Green—Four hours.

A. I. Root—If the frames were metal covered, and the colonies not too strong, such as we use in queen rearing, I could find the queens at the rate of one in two minutes—perhaps one in a minute.

M. M. Baldridge—I have a way of finding queens without taking out a comb. I rap on the hive, then raise the cover, and find the queen on top of the frames. By using a hive with a raised cover, such as Mr. Root makes for the Simplicity, I can drive the bees up into the cover, where they will cluster. By waiting a little while most of the bees will go back, and only a little cluster will remain, but the queen will be found in the cluster. The old bees go back first.

WAX SECRETION.

M. M. Baldridge said a certain man in Wisconsin told him that bees do not build comb from the scales that are found between the abdominal rings. He asserts that these little scales are simply waste material. If the wax was made from these little scales there would naturally be an occasional scale left hanging, or partly detached. This is never seen. The combs are always smooth and complete. This man thought that the combs might be made from a sort of oil.

Messrs. Abbott and Mason stated that they had often seen the bees using these scales of wax in comb-building. One bee would stick to a scale, another would come along and give it a pat or a pinch, then another, etc., etc., and the wonder was that comb could be so accurately made as it is with such helter-skelter work.

President Miller—It looks to me as though this matter is not worth discussing. If such a communication as this should be sent to one of the bee periodicals I think it would go into the wastebasket. How is it, Brother Root?

A. I. Root—Unless it came from some scientist, or one in whom we had confidence, I think that would be the fate of such an article.

President Miller—The whole matter reminds me very much of a man by the name of Cox—a Dr. Cox—who went about selling a hive in which he

claimed that comb would *grow*. If we would only keep the bees in this hive, and put them in a warm cellar, the comb would *grow*, even in winter. If it is a fair question, and you have no objection, Mr. Baldridge, I wish you would tell us who this person was that made such assertions.

M. M. Baldridge—Dr. Cox.

There was silence for a moment, then there went up such a shout of laughter that the cooks from the hotel kitchen heard it, and peeped slyly in at a side door to see what caused the merriment.

ARE DIVISION-BOARDS NECESSARY?

E. T. Abbott—I have used them, but can see no advantage in their use.

W. Z. Hutchinson—What better is a division-board than a comb?

A. B. Mason—There is a space around the outside of a frame that allows the heat to escape.

W. Z. Hutchinson—True, but much depends upon the material of which a division board is composed. If this room was cold, and we wished to divide it into two apartments, with a view to warming one of them, a division made of buffalo robes might be more desirable than one of cotton cloth, even though the latter fitted the walls snugly, while around the edge of the former was an open space of a few inches.

President Miller—The thermometer should settle these matters. Very carefully conducted experiments indicate that a comb, even with a space around it, is better than a division-board of wood that fits the hive closely.

J. A. Green—When closed-end frames are used they do away with the space around the frames.

J. H. Larrabee—I have tried experiments with a lamp and thermometer in a hive, to decide which were preferable, combs or division-boards, and a dry comb, or one full of honey, is as good as a division-board.

E. T. Abbott—Space around the edge of a frame amounts to but little in this matter. The bees between the combs on the outside of the cluster keep in almost all of the heat; the comb that is on the outside of the cluster yet with which the bees are in contact, is a better non-conductor of heat than an inch board.

CONSOLIDATION OF THE NORTHWESTERN WITH THE ILLINOS STATE SOCIETY.

It was thought desirable that the Northwestern Society should have the benefit of the $500 granted by the State of Illinois to the Illinois State Bee-Keepers' Association. The Northwestern has a good membership and attendance, but no money to work with except what little comes in as fees. The Illinois State Association is a new society, but has money to work with. It was thought desirable for the two societies to be united and combine their forces, hence it was decided by vote that the Northwestern be merged into

the Illinois State Society, provided that the Illinois State Association will accept of the Northwestern, and will agree to hold one meeting more if necessary every year in Chicago. If the Illinois State Association accepts these terms, then the election of officers of the Northwestern will be void. All the old officers were re-elected.

THE NORTH AMERICAN CONVENTION.

C. P. Dadant, Secretary of the North American Society, urged bee-keepers to attend the coming meeting at Albany, N. Y. There has probably never been such a gathering of notables in the bee-keeping ranks as will assemble at Albany. Several important questions are to be brought up. Cheap sugar stares us in the face, and at Albany the question of securing a bounty on honey will be thoroughly discussed. It was surprising, the Secretary said, how few men worked for and secured the appropriations for the Illinois State Bee-Keepers' Society.

THE BOUNTY ON HONEY.

A. I. Root said that if bee-keepers had a bounty on honey the farmers would want a bounty on wheat and potatoes.

J. H. Larrabee—If the lowering of the price of sugar affects the price of honey then honey producers are just as much entitled to a bounty as are the sugar producers.

R. A. Burnett—Honey is a commodity of itself. It is used for the purposes of which sugar will not answer. I cannot see that lowering the price of suffar has affected the price of honey at all.

J. A. Green—I have frequently heard grocerymen say that the low price of sugar has had an effect on the price and sale of honey. Consumers say: "We can't afford to pay so much for honey when we can make a syrup so much cheaper out of sugar, and we like it nearly as well."

C. P. Dadant—There are jellies and other sauces in the manufacture of which sugar is used and these sauces come into competition with honey.

HONEY EXHIBITS AT THE WORLD'S FAIR.

Dr. Mason said that he had visited the chief of the Agricultural Department of the World's Fair and had been told that about ten feet square was as much space as could be given to each State for making an apiarian exhibit. This would put us on our metal to do our very best in a small space.

J. M. Hambaugh—The part of the appropriation for making an apiarian exhibit at the World's Fair has not yet been allotted by the Illinois State Board of Agriculture. It is really important that this Society should take action, or express its wishes in this direction.

Dr. Mason moved that a committee be appointed to bring the matter before the Board. Carried.

J. M. Hambaugh was appointed as that committee, and drew up the following petition :

To the Honorable Board of Agriculture of the State of Illinois :

The members of the Northwestern Bee-Keepers' Society, in convention assembled, do hereby respectfully petition your honorable body to allot, for a creditable exhibit of the products and appliances of the apiary, a just proportion of the amount appropriated by the Illinois State Legislature for the display of the agricultural products of this State at the Columbian Exposition to be held in the city of Chicago in 1893.

J. M. HAMBAUGH, Chairman.

Adopted.

THE GRADING OF HONEY.

The committee appointed to formulate a set of rules for the grading of honey was called upon to report, when it was found that not even *two* members could be found who could agree. It seemed a hopeless task to try to do anything. Finally each member was called upon to read over the rules for grading honey which had been presented to the committee. After some discussion the rules given by Mr. Baldridge seemed to meet with the least opposition, and the President suggested that Mr. Baldridge read the first section and the convention would discuss and vote upon it. By going step by step it might be possible to agree upon something—enough to make a start. The point upon which there seemed to be the greatest disagreement was whether the word *white* should be applied when describing the first grade, it being argued, with a good show of reason, that there were first grades of buckwheat and Spanish-needle honey, as well as of clover and basswood. On the other hand it was asserted that by common consent it came to be understood that only white honey was first-class. The following are the rules as they were amended and finally adopted by the convention, for honey in the comb, crated :

First Grade—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb to be unsoiled by travel-stain or otherwise; all the cells sealed and the honey of uniform color.

Second Grade—All sections well filled, but with combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain, or otherwise, and the honey of uniform color.

Third Grade—Sections with wood or comb, or both, travel-stained or otherwise much soiled, and such as are less than three-fourths filled with honey, whether sealed or unsealed; and crates containing two or more colors.

The society voted to adopt the foregoing rules as a whole, and to request the Secretary to present them to the North American Bee-Keepers' Association at its next meeting, at Albany, for consideration, revision and adoption.

Following the above rules, Mr. Baldridge had a note, which read as follows:

Note—The color of the honey to be known as light, medium and dark; the crates to be unsoiled, but if otherwise, the honey in such crates to be classed in the next grade below the one indicated in the instructions.

Fourth Grade—All crates filled with honey not described in any of the foregoing grades.

The convention did not see fit to adopt these "notes." It felt that it had done enough without that. It had made a commencement. Now we have something to work on, to discuss, and to free from fault. The adoption of these rules was really the most important work done by the convention, and perhaps the most important that will be done by any convention this year.

BEST SIZE FOR SHIPPING CRATES.

Very properly following the discussion on the grading of honey, came the question of the most desirable size for shipping crates.

E. T. Abbott moved that the crates should hold a single tier, ranging in weight from 12 to 48 pounds.

R. A. Burnett—I should advise no crates to hold more than 24 pounds.

M. H. Mandelbaum—I quite agree with Mr. Burnett in that.

B. Walker—I would not think of using any crate holding two tiers.

Mr. Abbott's motion was then finally amended and carried in this revised form:

Resolved, That the Northwestern Bee-Keepers' Society advise the use of single tier crates, holding 12 to 24 pounds.

PACKAGE FOR EXTRACTED HONEY.

Mr. Mandelbaum advocated the use of tin cans (60 pounds) for shipping extracted honey, putting two cans in a case.

O. O. Poppleton—Chas. F. Muth wants nothing but barrels.

A. N. Draper—I use empty glucose barrels. I get them at the candy factory, where they cost me only 50 cents.

E. T. Abbott—My business is largely the selling of honey. It is put up in the Muth jars, and is sold in the liquid state. If I find any beginning to candy in the hands of a dealer I take it away and liquefy it. I do not like to

buy honey in barrels, because if the honey is candied I must knock out the head and dig out the honey. When honey is in a tin can I can put it in warm water to liquefy it, and it will run out.

It was voted that the Secretary be paid the balance remaining in the treasury after paying all legitimate bills.

The Treasurer, Thomas G. Newman, said that there were no debts to pay.

A vote of thanks was then given the proprietor of the Commercial Hotel for his kindness in furnishing free a room in which to hold the convention, and to Mr. Newman for making all the arrangements for the meeting; that we were sorry for his indisposition, and hope for his complete restoration to health and strength.

CASES FOR HOLDING SHIPPING CRATES.

Byron Walker exhibited a crate similar to the one he submitted to Mr. J. T. Ripley, whereby he secured the ruling, allowing the glass in the crates to be shown, if protected. The slats in the case come opposite to the glass in the crates, but do not entirely conceal it.

J. A. Green advised that the handles be put on in such a manner that the combs run parallel with the handles, as there would be less liklihood of the comb being broken if one end of the case be dropped down first.

The convention then adjourned, and it is probably the last convention the Northwestern will hold under that name, but the conventions that will be held in Chicago each fall will be the same as they have been, with the additional advantage of having money to use for its furtherenee.

NATIONAL BEE-KEEPERS' UNION.

OFFICERS FOR 1892.

President—James Hedden.

Vice Presidents—G. M. Doolittle, Prof. A. J. Cook, G. W. Demaree, A. I. Root, Dr. C. C. Miller.

Manager, Secretary and Treasurer—Thos. G. Newman.

Following is an address by the General Manager setting forth the importance of the National Bee-Keekers' Union, including the decision of the Supreme Court of Arkansas. Also General Manager's report for 1891.

"In 1885 a bee-keeper within 100 miles from Chicago was sued for damages amounting to $500, which were alleged to have been done to the sheep of a neighbor.

"Of course ignorance was the cause of this lawsuit, for bees are of a great advantage to the clovers as well as to other bloom, and without their aid in fructifying the flowers many a plant would cease to bloom—and even to *live*. They absolutely require the visits of bees or other insects to remove their pollen masses, and thus to fertilize them. Hence, Darwin wisely remarks, when speaking of clover and hearts-ease: 'No bees, no seed; no seed no increase of the flower. The more visits from the bees the more seeds from the flower; the more seeds from the flower, the more flowers from the seeds.' Darwin mentions the following experiments: 'Twenty heads of white clover, visited by bees, produced 2,990 seeds, while twenty heads so protected that bees could not visit them produced *not one seed.*'

"As soon as this became known among the fraternity the National Bee-Keepers' Union was organized, with headquarters at Chicago. This union was charged with the duty of 'protecting the interests of bee-keepers,' by defending their rights under the laws of the different States where they reside.

"Besides giving the moral encouragement to the pursuit of bee-keeping which such a National organization naturally bestows, it has materially assisted in several cases where the law was invoked to crush the interests of our industry.

"Its first business was to defend the suit of 'sheep vs. bees' before mentioned, for it was understood that this was to be a 'test case' and if the plaintiff succeeded in obtaining a verdict in his favor, either by the ignorance or prejudice of a jury, other bee-keepers would be likely to be sued to reeover damages done to pastures, vineyards and gardens by bees, and any one owning a few square rods of land, devoted to almost any purpose, may try to recover damages from all the owners of bees in the vicinity.

"The union made such a stir in the matter, showing fighting enthusiasm among bee-keepers, that there would have been a lively time had there been a trial on the merits of the case.

"The Judge made a thorough examination of the laws of the State, and concluded that there existed no laws or rulings upon which he could instruct the jury, and thus ended the case.

"This ignorance was a God-send to apiculture. It brought out such an array of testimony as to the great advantage that bees were to the clover fields, that now it is difficult to find many so ignorant as to claim that bees are anything but a blessing to fields and flowers, to plants, trees and bushes. They make it possible to produce large crops of clover seed, and fill the land with richest fruit. Many fruit growers now even keep bees, not for the production of honey or wax, but for the especial purpose of fertilizing the early blossoms, thereby increasing the fruit crop.

"Nature hangs out the beautiful and variegated colors, in order to call the attention of the insects. Dainty repasts are provided in the little fountains, distilled and welled up, drop by drop; and the aroma invites the bees and other insects to 'come to the feast!' Why all this design in Nature? She wants their fertilizing aid. The flowers *need* the visits of the insects to carry the pollen masses from blossom to blossom, in order to fructify them, and cause the fruit to form, abide and ripen—to gladden the hearts of fruit growers and fill their pockets with shekels.

"The horticulturist may dig, graft and bud, but what will the returns be without the labors of the bee? The Creator has provided no other means for the fertilization of flowers but the visits of insects, and there are no other insects at that time of the year to flit from flower to flower. The body of the honey bee is wisely adopted to this purpose, being covered with fine hairs, invisible to the naked eye, which brush off and carry the fertilizing powder to the germ that requires it. The fruit sets better even when the tree has perfect flowers, containing both pistils and stamens, if pollen from another flower, or better still, from another tree, is brushed upon its germs. Who has not observed that a long-continued rainstorm, occuring during fruit bloom, and preventing these little messengers from their rounds, is followed by a failure of fruit?

"The bee-keepers and horticulturists should, therefore, always be fast friends—their interests are linked together in a way which should make them 'brothers, all!' The prosperity of the one aids in the advancement of the other.

"The National Bee-Keepers' Union has defended the rights of bee-keepers in many States, from the Atlantic to the Pacific, when they were attacked through the courts, and with one exception has been victorious.

"The most notable case was in Arkansas, where it carried the case through the Circuit Court up to the Supreme Court of that State, and won a magnificent victory.

"As this case was a very important one, a statement of the facts, and a pretty full report of the arguments of the attorneys for the Union, will be interesting to all. They are as follows :

"In May, 1887, the Arkadelphia City Council, Arkansas, passed an ordinance, which, with its preamble, read thus :

"The preamble states that, 'Whereas, a petition from many citizens of Arkadelphia, having been previously presented to this council, setting forth that the raising of bees or keeping them in the city of Arkadelphia was injurious and destructive to property, such as early fruit, and dangerous to citizens when riding in vehicles or on horseback upon the streets, and a pest in many of the houses in said city, having stung many persons, and especially children, while walking the streets and sidewalks.'

"The ordinance as adopted is substantially as follows:

" 'Be it ordained by the city council of the City of Arkadelphia: That it shall be unlawful for any person or persons to own, keep or raise bees in the City of Arkadelphia, the same having been declared a nuisance.

" 'That any person or persons keeping or owning bees in the City of Arkadelphia are hereby notified to remove the same from the corporate limits of the City of Arkadelphia within thirty days from date hereof.'

"Section 2 provides a penalty of not less than $5 or more than $25 for a violation of the ordinance.

"The cause for this action was the fact that Mr. Z. A. Clark, who has kept bees in that city, was not in political harmony with those in power, and the latter sought to punish him and get rid of his presence, by prohibiting the keeping of bees within the corporate limits of the city.

"Some of the more ignorant ones declared that his bees were 'eating up the peaches!' and others, that they were 'eating up the young ducks!' Preposterous as it may appear to those who are better informed concerning the formation and habits of bees, yet it is true that many accepted these ridiculous charges as *truth!*

"Mr. Clark was ordered to remove his bees by June 6, 1887. He did not remove them; and on January 2, 1888, he was arrested and fined, day after day, for ten successive days, for maintaining a *nuisance*, by keeping his bees in the suburbs of that city.

"Not paying the fines Mr. Clark was committed to the city jail, by order of the mayor.

"Mr. Clark, being a member of the National Bee-Keepers' Union, very naturally appealed to it for protection. Being clearly in the right and worthy of defense the Union engaged the services of Major J. L. Witherspoon, ex-Attorney-General of Arkansas, and several other attorneys to defend the bees and their keeper.

"This case was important because it was the first time that it was sought to exterminate the bees from the suburbs of a city, by declaring them a nuisance by ordinance. If allowed to stand it would be a precedent to be followed wherever a bee-keeper was obnoxious to the ruling majority; his *rights* would be ignored, and the bees condemned by ignorant and prejudiced persons for selfish motives.

"The National Bee-Keepers' Union, therefore, concluded to carry the case to the Circuit Court, for it would be very detrimental to the pursuit to allow an ordinance against bee-keeping to remain uncontested, and to be quoted as a precedent against the keeping of bees, because it had been declared 'a nuisance' by a city council in Arkansas.

"By the enforcement of that unlawful ordinance of the city Mr. Clark was deprived of his liberty, and the constitutional rights guaranteed to every citizen in the United States.

"Even granting that it was wrong in Mr. Clark not to obey the city autorities he shonld have had a speedy trial by an *impartial jury*—all of which had been denied him. Even when released under a writ of habeas corpus, he was, within three hours, re-arrested and fined.

"After demanding a change of venue, because of the prejudice of the mayor, that functionary again fined him, denying him his constitutional rights.

IN THE CIRCUIT COURT.

"The Circuit Court convened in July, 1888, and the Hon. Sam W. Williams, of Little Rock, was added to the attorneys for the Union. Our attorneys, Judges S. W. Williams, Witherspoon, Murray and McMillan, made a motion to dismiss the case against Mr. Clark, 'because the ordinance of the City of Arkadelphia, on which the prosecution is founded is void and in violation of law.'

"Then Judge S. W. Williams read section after section of law; in Mr. Clark's favor, showing that a man's right to hold property is paramount to all legislative power; and any attempt to take away such right is unconstitutional.

"After which Judge Hearn stated to the attorneys that he had lived a long time in Arkadelphia, and that bees had been kept there all the time, and that he had not heard any complaint until this case came up. He added that the case would go to the Supreme Court, no matter in which way it was decided in his court, and he wanted to be found on the right side when decided in the Supreme Court.

"He then sustained the motion of the attorneys for the Union, to dismiss the case, and he declared the ordinance of the city *illegal and void*.

"The city attorney then gave notice of his appeal to the Supreme Court.

"The appeal to the Supreme Court was heard on June 22, 1889.

IN THE SUPREME COURT.

"Messrs. Crawford & Crawford, attorneys for the city, argued in favor of the valaidity of the ordinance.

"The following is the argument of the attorney of the National Bee-Keepers' Union, Judge S. W. Williams, of Little Rock, Ark., in the above mentioned case, on an appeal to the Supreme Court of Arkansas, in the case of the City of Arkadelphia vs. Z. A. Clark.

"This case discloses a most flagrant violation of the property rights of the citizen. It seems that Clark, who lived in the outskirts of Arkadelphia, a village of some two thousand inhabitants, scattered over territory enough for one hundred thousand—*a ruse in urbe*—had a few bees, as the record shows (page 1), 35 stands. This gave rise to a persecution unparalled since the days of the boot and the thumb screw, to force Clark to give up his property.

"Those running the city at the time, not content to make a test case, and have the question settled by this court—after passing this sweeping ordinance, commenced a system of daily arrests, trials without jury, judgments and imprisonments resulting in appeals; and this is one of the numerous spawn of cases from the same oppressive hot-bed.

"At last Clark was compelled, at a great loss, to give up his property and quit his business of bee raising and honey production in Arkadelphia—a principal source of his support—as an alternative to indefinite imprisonment.

"When the case came to the Circuit Court, one test case was tried, upon motion to dismiss, and the court below held the ordinance void, because it did more than regulate the keeping of property—it forbid the owning or keeping a valuable and useful property in the town; in effect holding that the bee was *per se*, a nuisance. For if it was not, then its presence in a town could not be prohibited by any law.

"Before proceeding to argue the case, we call attention to the statement of counsel, at page 9 of their brief, that it is a matter of common knowledge that they are liable to sting children, etc. It is not a matter of common knowledge, because it is not true, unless children molest them at their hives, or catch them. But because a domestic insect may sting or hurt under some circumstances, no more makes it a nuisance—*per se*—and liable to prohibition, than the fact that a horse may kick, may run away in harness and kill a child; or an ox may gore persons with its horns, would make these animals nuisances *per se*.

"I venture the assertion that there is not a town or city in the United States where bees are not kept. I know they are now kept in Little Rock, and have ever been. My nearest neighbors have them. I have kept them in my yard while rearing a family of children, and I cannot recall any instance of an injury from bees. I speak this in the line of common knowledge, which the court must recognize.

"I can recall the kick of a pony, and a cow running over a child—shall keeping of horses and cows be forbidden by ordinance? And while bees have been kept for centuries in towns, it is an argument in their favor that Arkadelphia is the first on record to forbid them. I respectfully submit that while the court must judicially know the habits of all animals, the 'little busy bee' should have a chance with the cow, the horse, the sportive dog, the gentle, purring cat, and even the festive chicken cock—on a par with counsel's skunk farm story—a pure fiction of Bill Nye.

"I may be allowed to refer to the fact that last year two instances are given in newspapers, one authentic at Hot Springs, one elsewhere, not so well established—where children were killed by a chicked cock attacking them. For this reason can the keeping of chickens be forbidden? The bee has no such record of homicidal or infanticidal results. Will these instances, or the fighting of mother-hens over their broods, make chickens *per se* nuisances? Unless bees, under all circumstances, however kept and tended, and in any quantities however small are *per se* nuisances—this ordinance cannot be sustained; for it does not regulate the quantity, or manner of keeping, or make the keeper responsible, as in case of other dangerous animals, and punishable for consequences, but assumes to destroy property in them in Arkadelphia altogether, or compel a man to leave his home and buy another, or quit his business.

"The provision of sections 751 to 764, Mansfield, does not give the city of Arkadelphia power to take a man's property for public use, without compensation, under the power to prevent injury or annoyance. Section 751 invests them with no such *quia timet* jurisdiction.

"Because bees may sting or annoy, therefore we prohibit. It would follow that because cows may gore, dogs annoy the sensitive by barking or biting, or running mad we will also prohibit them. Because vehicles may annoy, by raising dust or making a noise, or animals may run away in harness, therefore we prohibit them. No such autocratic or despotic power is necessary to preserve the citizen from real harm and annoyance; and the legislature could not prohibit the keeping of bees, and could not delegate such power under the bill of rights. For the right to acquire, possess, and protect property is secured by Section 2, Article 2, of the Constitution, beyond legislative and municipal control, and bees are the subject of property. Nor can the citizen be destroyed or deprived of his life, liberty or property except by the judgment of his peers and the law of the land.

ib. Section 21. Nor shall property be taken or damaged for public use without just compensation. *ib.* Section 22. This property-right is also protected by the 14th amendment to the United States constitution. Stockton laundry case, 26 Federal Rep. 611. The last cited is a case in point. The general law regulating governments of cities does not give every town council, when, in their judgment, they fear that the keeping of certain kinds of property may annoy or injure, to declare it an annoyance and prohibit it. It

must be a nuisance, *per se*, like a mill-pond or slaughter-house. Many things annoy and may injure, that are not nuisances and cannot be prohibited. Bell-ringing, vehicle running, steam-whistles and railroad trains are often annoying, so are privies and stables. This would not give power to prohibit them, to prevent *quia timet*—the possibility of annoyance or injury. The viciousness of this ordinance will be manifest if we keep in view the difference between the power to regulate and keep possession of property in due bounds, which power is conceded—and the power to prohibit keeping property altogether.

"These general clauses of the statute granting powers to towns are to be strictly construed, and this court has repeatedly held ordinances void which have been passed under a liberal construction of the general powers given. The first is Waters vs. Leech, 3 Arkansas, 114. Thus the right to regulate and license keeping of a dram-shop does not authorize them to prohibit. Tuck vs. Waldron, 31 Arkansas, 462. Saloam S. Springs vs. Thompson, 41 Arkansas, 456. Nor did the power to suppress gaming-houses empower a city to license them. State vs. Lindsey, 34 Arkansas; Goetler vs. State use, etc., 45 Arkansas, 454—and the power given in the act did not give power to declare that which is not a nuisance *per se*, to be one—which was attempted. Little Rock vs. Ward, 41 Arkansas, 527. Even the legislature cannot, by declaration, make anything what it is not. 3 S. W. Rep. 425 12 Western Rep. 760. 11 Central Reporter, 219.

"We may sum up this result: The power to regulate does not give the power to prohibit, though it does give power to license. Russellville vs. White, 41 Arkansas, 485; and that the power to prevent and abate nuisance does not give power to declare that a nuisance which is not *per se* such; and no presumptions are indulged in favor of the rightfulness of an ordinance. A city council, with full power to declare a nuisance does so at its own peril. Americus vs Mitchell 5 S. E. Reporter, 201. Persons abating a nuisance under a State law must show its existence. Newark and South Horse Car Co. vs. Hunt, 11 Central Reporter 219.

"In keeping with the decision of our court, to the effect that a city council cannot by ordinance make that a nuisance which is not such; see the following authorities: Horr & Bemiss, Mun. Pol. Ord. Sec. 252. 24 N. J. Esq., 169.

"There is a recent case decided by the Supreme Court of Michigan, in which a city attempted by ordinance, under penalty of one hundred dollars, to punish and prohibit the distribution of hand-bills and cards on any street or alley. The ordinance was held void, and that it was not a proper exercise of the power to clean streets, etc , and to prevent the incumbering of the same and to regulate the manner in which the streets should be used and to prohibit and prevent the flying of kites, and all practices, amusements and doings therein having a tendency to frighten teams or horses, as dangerous to life or property. This was held void in case of People vs Armstrong, by

the Supreme Court of Michigan, January 18, 1889, and is reported and commented on in the Albany Law Journal, March 9, 1889, with approval.

"In that case there was much more pretense for the power than there is in this case; for bees are not named—and the power is claimed here under the general power to prevent injury or annoyance, etc. Mansfield's Digest Sec. 751.

"An ordinance of Grand Rapids which forbade the marching, parading, riding or driving upon public streets with musical instruments, banners, flags, torches, flambeaux, or while singing or shouting, without the mayor's permission, was void, as prohibiting a thing lawful in itself, and leaving it to an unregulated official discretion. See Frazee's case, 63 Michigan, 396.

"All ordinances arbitrary in their terms, and unreasonable and unnecessarily abridging private rights, are void. I Dillon Municipal Corporation, Sec. 253. Clinton vs. Phillips, 58 Illinois, 102, Kip vs. Patterson, 26 N. J. Law 298. Commissioner vs. Gas Co. 12 Penn. St. 318. Commonwealth vs. Robertson, 5 Cush, 438.

"This ordinance not only does not come within the power granted, but it is also *unreasonable* and *unwarranted*, either is sufficient to make it void. Lynn vs. Free Mason Building Association, 9 Central Reporter, 360.

"Municipalities only have such powers as are expressly granted to them or such as are necessary to carry those powers into effect. United States vs. Ludlow, 9 Central Reporter, 517. Johnson vs. District of Columbia, 9 Central Reporter, 653. It is well settled that the general power to prevent annoyance does not give power to declare everything which may annoy or arouse the fears of the sensitive—a nuisance. Nor does the existence of that fact give power to prohibit. See authorities above cited.

"It is equally well settled that a city cannot under general power, declare that a nuisance which is not so in fact. Des Plaines vs. Poyer, 12 Western Reporter, 760. Stockton Laundry Case 26 Federal Reporter, 611—where it is held that an ordinance is unconstitutional and void which forbid a laundry in the heart of the city; yet a drying up of sinking soap-suds might become dangerous to health and annoy; and infected clothing would be more frequent than bee-stings. See also 9 Pacific Reporter, 141.

"Mr. Wood, in his work on 'Nuisance,' in the index at page 1021, refers to bees with a reference to title—Dangerous Animals. Under that head, at page 1025, he refers to cases of animals which by their owners, may be known to injure, referring to page 871 *et seq.*, which recognizes fully the right to keep animals subject to responsibility (*on scienter*) for injuries by those known to be of vicious character.

"Strangely enough, of all the cases cited, not an instance of injury by 'the little busy bee,' or the silk worm is found, showing how harmless these little insects really are. The habits of the bee lead it to wood, field and orchard for pasture, and if it enters a house it is because carelessness has

left some sweet uncovered and exposed, to attract it, and rarely then does it enter a house. Those who thus invite it are guilty of contributory negligence, and have no right to complain.

"I am employed in this case by the American Union of Bee-Keepers, of Chicago, Ill., and this is the only known case in America or England where a town has attempted to prohibit bee culture; and this is a test case to determine the extent of their powers. The burden of showing the nuisance is on the city. Bailey's *onus probandi*, page 233, *ib.* page 460.

"A city ordinance cannot be leveled at a mere private nuisance to one or more persons. The nuisance must be public and general in its character, and must be an actual nuisance. Horr & Bemiss, Sec. 252,254. 4 Blackstone's Commentaries, 167. 1 Bishop Crim. Law, Sec. 243. Wood on Nuisance, pages 24, 25, 26, 80, 81, 82. Dillon on Municipal Corporation, Sec. 308.

"I undertake to say from a knowledge of the habits of the bee, that it would be impossible for it to become more than a private nuisance, for which the person injured has his remedy, as in case of injury from a vicious animal. The nuisance must not only be public and actual, but substantial. 'It is not a mere trifling annoyance with which the law deals in public nuisances,' but 'real, substantial injuries, that are calculated to offend the sense of men of simple tastes and habits.' Conveniences are not balanced. Wood on 'Nuisance,' page 81.

"Even in those acts which are admittedly nuisances, an ordinance is void and unreasonable where it trenches on private rights and property without corresponding public necessity. Thus, while slaughter houses may be regulated, an ordinance is void which prohibits one from killing an animal on his own premises, unless in a slaughter house—an attempt to drive everybody to one slaughter house. Treford vs. People, 14 Michigan, 41. Cannot compel removal of a steam engine from a city not *per se* a nuisance. Baltimore vs. Palecke, 49 Md. 217. 33 American, 239. Nor can a city require the owner of a theater to pay a police officer for attendance at every performance. Waters vs. Leech, 3 Ark. 110. In the last cited case, Judge Dickinson, delivering the opinion of this court, says: 'The corporate powers are not only limited, but must be reasonably exercised in sound discretion, and not only strictly within the limits of the charter, but in perfect subordination to the Constitution and the general laws of land, and the rights dependent thereon.'

"In short, I refer the Court to Horr & Bemiss, on municipal police ordinance, Sec. 131, for a full review of this point.

"Where the instances are given wherein unreasonable ordinances and those in violation of private rights are given, the ordinances must accord with the Federal Constitution and laws, and with the legislation of the State.

"It is misleading to follow English decisions, because in that country municipal power rests often upon proscription, a source not recognized here. Horr & Bemiss, Sec. 123.

"We do not dispute that if there was express power given to enact an ordinance of a certain kind, if constitutional, the discretion or propriety of enacting it, is left to the judgment of the council, and its decision is final. Horr & Bemiss, Sec. 128. But here is no 'express power' given by law to forbid bees; but merely a general power to prevent 'annoyance,' 'injury,' etc. Whether an ordinance is within the terms of the power, and is reasonable, the courts must determine, and have determined in this State and elsewhere, again and again.

"So much for the contention of counsel—that the action of the city council was final; invoking a correct principle applied to a wrong state of facts. I say to them, show your express power to prohibit keeping bees, or any other animal or insect, for fear somebody may get hurt, and I will surrender the case, and even waive the constitutional question. There is no such express power given; that is the full extent to which the decisions go. If a power is expressly given by the Legislature, within the Constitution, the decision of the council, that the power should be exercised by ordinance, is final. Yet this is invoked to bolster up this sweeping anti-bee ordinance; about as much akin to the question as a Choctaw treaty to a Psalm of David.

"You cannot stable bees like a horse, but the Court must judicially know to do that would destroy their value as property, and the Court will judiciously know that unless the owners of houses, groceries, etc., are careless in leaving attractions for them they will not annoy them; and if they do so attract them by carelessness, they cannot complain. The bee, even with these attractions, prefers to pasture among forests, fields, and amidst flowers; so much so that its habits are crystalized in song, and made subject of poetic simile.

"If the people of Arkadelphia will keep the sugar and molasses barrels closed, and the grocers will keep their premises clean, no bee of Clark's will visit them; and from the well known habits of the housewives of Arkadelphia in perfect order and cleanliness, having no superiors—no bee visits a private house there; and hurting young fruit and the like, as suggested in the ordinance, raises a suspicion that here is a pretext, and behind the ordinance is a concealed motive. Was it that Clark was making too much out of honey and bees? or was he competing too sharply with somebody?

"The power given cities must harmonize with constitutional property rights, and must be reasonable and lawful, and not contravene common right. Dillon on Mun. Corp., Sec. 258, 259. And 'wherever an ordinance seeks to alter a well settled and fundamental principle of the common law,' or to establish a rule interfering with the rights of individuals, or the public, the power to do so must come from plain Legislative enactment. Taylor vs. Griswold, 2 Green, N. J. 222. Dillon on Municipal Corp., Sec. 55 and note.

"I have already shown that by no possibility can the power be derived from the powers contained in Mansfield's Digest, Sec. 751, which is nothing but a power to punish or abate a public nuisance, and while the named and defined powers are very full, we look in vain for any power or authority to abate or remove bees, as such; nor would it be constitutional if there was such a statute. It is only when bees by the place or manner of keeping, or the like, become a public nuisance, and to that extent and no further, does the general power go. Dillon on Mun. Corp., Sec. 261. Horr & Bemiss, Sec. 252, last paragraph. Emmett vs. Council Bluffs, 46 Iowa, 66. Pye vs. Peterson, 45 Texas, 312. State vs. Matt, 61 Md., 292. Davis vs. Clifton, 8 N. C. C. P. 236. Horr & Bemiss, Sec. 144.

"The power cannot be given in general terms to abate that which comes under the general definition of a nuisance, in advance of a judicial determination. Dillon on Mun. Cor. Sec. 308; and in Gates vs. Milwaukee, 10 Wallace 497. Judge Miller says: 'This would place every house, every business, and all the property in the city at the uncontrolled will of the temporary local authority.' So the words 'injury' and 'annoyance,' used in Sec. 751, Mans, Dig. have been too often defind in like charters to need further explanation here. It simply gives a power over nuisances, and does not mean any injury or any annoyance that sensitive or timid or nervous people may imagine or fear.

"The bees must be *per se* a nuisance to justify this sweeping ordinance, under which, according to its letter, a man cannot live in Arkadelphia, if he owns bees, no difference where he keeps them; for personal property, wherever kept, is in law with the owner. In Harvey vs. Dewoody, 18 Arkansas, 252; where the mayor and other town officers were sued in trespass for tearing down an old house which the owner had permitted to remain vacant and open, and to be used as a privy, until it became unhealthful and dangerous, an ordinance was passed to abate it. To a plea setting up the ordinance and facts on which it was based as a defense, on demurrer to this plea, it was held a good defense.

"The counsel of Arkadelphia try to gather comfort from this case, but it would be parallel if the Des Arc Council had passed an ordinance requiring all wooden houses to be torn down, without regard to condition or occupancy, or compensation to the owner. We would then have a case like the sweeping ordinance prohibiting bees, and requiring the removal for the public good, without compensation. Would a plea setting up an ordinance requiring all wooden buildings to be destroyed, have protected the officers in the Dewoody case?

"I shall not attempt to follow the learned counsel, or review their authorities; as far as they have any bearing on the case they sustain my position. 1. That the power is not given to prohibit bees by the statute. 2. That bees must at the time and place, and under all circumstances be a nuisance, *per se*, or the ordinance violates property right, and is not sustained by law.

"I have not stopped to criticise the manner in which the ordinance is brought in the record. It is the basis of the action, and by law must be filed, at least in the Circuit court, for the court cannot take judicial notice of it. It must be read at the trial and brought on the record as the basis of the suit. Abbott's Trial Evidence, page 770. Mans. Digest, Sec. 2, 835.

"I suppose as no point is made in argument upon the motion of appellant to dismiss the appeal that it was thought to be unnecessary to argue it. Cardon's testimony was taken upon that motion, to prove merely that an appeal was in fact prayed, and to make him amend his transcript, and the Court overruled the motion to dismiss the appeal.

"Appeals from Mayor's Courts regulated by Mansfield, Sec. 2,432, 2,435 2,436, required nothing but a bond; Perrin *ex parte*, 41 Ark., 194, the Jurisdiction of Justice of the Peace; appeal from the mayor taken in the same manner as from Justice. Mansfield, Sec. 797. This is a *quasi criminal* proceeding; if so, the appeal was rightly perfected. But if governed by civil code, then it is not to be dismissed for informality. Mansfield 4,141 mode of appeals in civil case 4,134. 4,135; and it was amendable. But all that was required was the filing of the bond, as the proceeding was criminal.

"It is desired that the Court pass upon the question, however, for the profession are in great doubt as to what is meant by appeal from Mayor, as in case of Justice of Peace, as provided in Sec. 797. In view of the fact that there are two modes of appealing from a justice—one by above sections 2,432 2,436, in criminal cases; the other in civil cases, by sections 4,134. 4,135, Mansfield, which differs from the mode of appeal in criminal cases. I submit that when the Mayor sits in a misdemeanor case, whether for violating an ordinance or a law, the appeal must follow criminal procedure. If he sits as a Justice of the Peace in a civil case the appeal must be taken according to sections 4,134, 4,135.

DECISION OF THE SUPREME COURT OF ARKANSAS, JUNE 22, 1889.

127 (Crim.) City of Arkadelphia vs. Z. A. Clark.

"The Appellee, Clark, was convicted in the Mayor's Court of Arkadelphia, for a violation of the city ordinance. The ordinance under the prosecution was had provided that it shall be unlawful for any person or persons to own, keep or raise bees in the city of Arkadelphia, the same having been declared a nuisance. Upon an appeal to the Circuit Court, that court sustained a demurrer filed by the defendant, and dismissed the prosecution.

"HELD—Neither the keeping, owning or raising of bees is in itself a nuisance. Bees may become a nuisance in a city, but whether they are so or not, is a question to be judicially determined in each case.

"The ordinance under consideration undertakes to make each of the acts named a nuisance, without regard to the fact whether it is so or not, or whether bees in general have become a nuisance in the city. It is therefore too broad, and invalid.'

Affirmed.

"It is a well known fact—one firmly established in the minds of all, that 'in union there is strength,' and a union of bee-keepers to defend our pursuit from the unjust attacks of ignorant or prejudiced person, is not only desirable but very necessary to our well being and general prosperity.

"For this purpose, and for it alone, does the National Bee-Keepers' Union exist—to throw a safeguard around the pursuit, as well as its devotees. It does not seek a quarrel, but when one is forced upon any of its members it sets up a 'defense' by its very existence and record. It is also a *warning* to ignorant and jealous enemies to beware how they trifle with the pursuit of apiculture, and to keep their *hands off* of the interests of its devotees. It warns them that the kee-keepers, as well as the bees, have a sting, with which to torture their enemies!

"The Union not only seeks to obtain decisions from the highest courts of America, but also to have on record these decisions to be quoted as precedents in all the courts of law, and by all the lawyers who practice therein.

"When the prosecution in Arkansas realized that bee-keepers had an organized body for defending the pursuit against the malicious attacks of the ignorant and the prejudiced, it *weakened*—it tried to 'hedge'—was willing to dismiss all the cases against Mr. Clark on a pretended informality in his bonds!

"Several other cases might be cited, serving to illustrate the fact, that belonging to such an organization is of itself not only an honor, but also a power in the defensive! If a jealous or prejudiced neighbor finds that a bee-keeper belongs to the Union for the defense of the pursuit, he will think twice before rushing into a lawsuit.

"The decision in the Supreme court of Arkansas will do more to guarantee bee-keepers their *rights* than anything that has ever been done in America If the Union should never do another thing; and go out of existence *at once*, that decision will be its 'crown of glory,' and its generous benediction.

NATIONAL BEE-KEEPERS' UNION.

THE GENERAL MANAGERS' SEVENTH ANNUAL REPORT, FOR THE YEAR 1891.

The past year has been a very important one for the National Bee-Keepers' Union. We have added 50 per cent. to our membership, and rendered timely and substantial aid to many bee-keepers who were harrassed by malicious and designing enemies of the pursuit.

The moral weight and influence of the Kee-Keepers' Union has prevented many lawsuits from being commenced, and where such has been begun it overthrew the claims of ignorant enemies of the pursuit, foiled the machinations of cunning lawyers, and guided the judges in making decisions, by referring them to the decision of the Supreme Court of Arkansas; and the able argument of Judge Williams in the celebrated case of the City of Arkadelphia vs. Z. A. Clark.

In briefly reviewing the work of the past year, we commence with the case of

G. W. COLE, CANTON, ILL.

Here complaints were made to the mayor and the bees of Mr. Cole were declared a nuisance Ignorant jealousy was the cause of the trouble. The case was then brought before a justice of the peace, who decided it against Mr. Cole (as might be expected), fining him $1 and costs of $21.70. The case was then taken up by the Union and appealed to the Circuit Court.

The prosecuting witness, Mr. Shaffer, not being content to await the result of the appeal, maliciously renewed the attack, and the same justice of the peace issued a new warrant, just to annoy Mr. Cole. But this time the Union won the case.

It was shown that concentrated venom was the cause of the prosecution. The city papers condemned the mayor and council in unmeasured terms.

At the Circuit Court, to which the case was appealed, Mr. Shaffer and his minions were defiant and threatening at first, then they wanted to hedge. When the case was reached on the docket, our attorney called the attention of the Court to the statute and cited authorities. The judge said that such a case could not be maintained and ordered it dismissed.

Thus ended the celebrated bee case at Canton. We had hoped to have the opportunity to carry this case to the Supreme Court, but was not allowed to do so. It was clean-cut maliciousness, and would have been a grand chance to have the decision of the Supreme Court of Illinois on the simple question, "Is bee-keeping a nuisance?"

MRS. J. M. NULL, MIAMI, MO.

The mayor, who is also editor of the News, tried to incite a crusade against the bees, and assailed Mrs. Null and her honey-gatherers each week. That lady, having been a member of the Union for years, was instructed how to proceed should legal measures be commenced by that ungallant official, and copies of the Arkansas Supreme Court decision were sent to the mayor and councilmen. They have not dared to molest the bees yet.

F. M. HART, TRAVER, CAL.

A fellow named Ogden, who is a grape-grower in Traver, circulated a petition to the Board of Supervisors to have the bees removed because they were charged with ruining the grape crop—that damage was done by rain, however. Mr. Hart wrote the facts to the manager of the Union, who, last February instructed him how to proceed, and sent copies of the Arkansas Supreme Court decision, to be placed in the hands of the Board and head off the petitioners.

The Board then procured from the District Attorney an opinion on this question: "Can the Board of Supervisors prohibit, by ordinance, the keeping of bees?"

The District Attorney replied: "Bees are property, and being such you cannot destroy the right of the owner therein. Any attempt of the Board to prohibit these farms on the ground that they are a menace to fruit farms would be usurpation by it of the functions of courts and juries, a denial to the citizen of his property-rights, and practically a confiscation of his property without due process of law."

The Board denied the petition and the bee-keepers won a substantial victory.

The Union is to be congratulated upon another victory. While Mr. F. M. Hart's action was directed by the Union, he remained in perfect quietude and his rights have been sustained. His neighbors became frightened at the cry of "the wolf," fled to the mountains and sacrificed their property. How much cheaper and more comfortable it would have been to have held a membership ticket in the Union and had its backing, moral support and defense?

E. GREELEY, LORAINE, OHIO.

A neighbor of Mr. Elbert Greeley, at Loraine, O., circulated a petition asking the city council to pass an ordinance to prohibit the keeping of bees in the city. The council took the wisest course in its disposition of thepetition, as, from the evidence at hand, it appears to have had its origin in a spirit of petty malice. Common justice demanded that Mr. Greeley's bees should not be declared a nuisance, and ordered removed from the city limits, while bees kept by others, within the limits of the same city, were not even mentioned.

COMMUNICATION BY TELEGRAPH.

Mr. Greeley wrote thus: "No bee-keeper knows when he may be called upon to defend himself in court against the attack of some spiteful neighbor, who thinks to injure him through his bees. Therefore, all should join the Union at once. I think the Union should have a cipher for use by telegraph in case of emergency. In my case the petition was only circulated three or four days before the meeting of the new council, giving me no chance to defend myself."

In case of emergency business can be done by telegraph, of course, but it is essential to carefully consider such matters before involving lawsuits.

The only case the Union has lost was the Olmstead vs. Rich case, and in that an answer was demanded by telegraph. The statement was made that the sheriff was threatening to collect the costs, which were very heavy (while the damage was only 6 cents), and Mr. R. wanted an appeal from the decision of the Supreme Court to the Court of Appeals, and demanded a reply by telegraph.

We do not like to have such important business done by telegraph.

OTHER CASES.

At Marine, Madison county, Ill., a spiteful man circulated a petition demanding to have the bees removed from the village. We dosed the officials with the decision of the Supreme Court, and heard no more of that petition.

At Easton, Pa., we score a victory won by a judicious use of the "Decision of the Supreme Court of Arkansas." An ordinance was there presented to the city council declaring the keeping of bees a "nuisance" and imposing a penalty of $20 for its violation. It was referred to the law department, and Mr. C. G. Beitel appeared before that body, and addressed it by giving in substance the argument of Judge Williams (which we had already sent him), showing the absurdity of such an ordinance. The result was that the section relative to bees was stricken out by unanimous vote and the bee-keepers there were troubled no more.

At Hopkins, Mo, the "nuisance" fever has broken out; and in many other places it assailed apiarists, but was cured by a dose of the Arkansas Supreme Court decision.

Space fails me to further enumerate the work done during the year.

OFFICERS FOR THE COMING YEAR.

Eight years ago the offices were filled by the present incumbents. Each year they have been re-elected by large majorities. They have done well, and been perfectly harmonious in all their actions. But would it not be advisable now to have an entire change? Would it not inspire confidence and add largely to the membership? Some may think that the present officers

have a mortgage on the places they fill, and to show all such persons that this is not the case, a change may be very desirable.

The General Manager knows that he expresses the feelings of all the officers when he says that they have no desire for re-election, and would be glad to give place to any others who may be selected by the votes of the membership at large. Their only desire is for the success of the Union in its great work of defending its members against the malicious attacks of the ignorant and prejudiced.

Any member is eligible to office. You should select rom the list given in this report such as you desire to elect, and make out your ballot accordingly.

HOW TO BECOME MEMBERS.

As this report will be sent to many not members, but who should become such, it may be well to say that the entrance fee is $1.00, and that pays for the dues of any portion of the unexpired calendar year, ending December 31. Then it costs $1.00 for annual dues, which are payable every New Year's day, and must be paid within six months, in order to retain membership.

If membership ceases, then all claims against former members also cease; and all claims to the protection of the Union are dissolved.

FINANCIAL STATEMENT.

Balance as per last report		$621.18
Fees from 571 members for 1890		571.00
		$1,192.18
Court expenses, attorney fees, printing briefs, etc	$530.00	
Printing, postage, etc	103.60	
		633.60
Balance, December 10, 1891		$558.58

LIABILITIES.

The Union has engaged attorneys for the dafense of several cases, the cost for which will have to be paid when they come up for trial—so we shall have use for all the money on hand and the dues for the next year—as the cases are reached on the docket.

DUES AND ELECTION OF OFFICERS.

It now becomes my duty to call for $1.00 for the coming year, as dues from each member. A blank is enclosed to be used for sending it, and also a voting blank. Fill up all the blanks and send to the manager with a postal note or money-order for $1.00 in the envelope sent with it. It must be received by February 1, 1892, or the vote will be lost.

CONCLUDING REMARKS.

The Union needs money, of course, but it needs members, and they are more important. Its moral power and influence is what counts, and a membership of 5,000 would be of more value than the $5,000 which it would bring.

Several of the attorneys who are members of the Union have assisted the General Manager in arranging cases, giving opinions and writing briefs, as well as giving advice concerning the management of cases on trial. The manager wishes to thank them all, but particularly to acknowledge his obligations to Messrs. J. E. Pond and G. W. Demaree for valuable assistance and counsel.

The General Manager has labored without the hope of reward, except such as comes from a consciousness of having done his duty, and is fully prepared to welcome his successor as soon as elected.

THOMAS G. NEWMAN, General Manager,
199 Randolph Street, Chicago, Ill.

MEMBERS OF THE NATIONAL BEE-KEEPERS' UNION, FOR THE YEAR 1891.

☞New members for 1892 are not included in this list.☜

Acklin, H. G.
Adams, Rev. G. A.
Addenbrooke, W.
Aiken, R. C.
Andrews, T P.
Armstrong, J. C.
Arnoldt, Mrs. E.
Ashby, Geo. H.
Ashley, Harmon J.
Atwood, F. M.
Atwood L. E.
Axtell, L. C.

Babcock, E. E.
Bagby, M. G.
Baldwin, Otis N.
Baldwin, T. J.
Banning, Jos. G.
Barker, Dayton E.
Barlow, Chas.
Barlow, J. W.
Barrows, O. B.
Bates, P. J.
Baxter, E. J.
Beach, A. L.
Berthe, William
Besse, Dr. H.
Beeson, A.
Bernhard, Wm.
Bernschein, E.
Billings, L. P.
Bird, E. V.
Boone, E. R.
Bornhop, Jno. F.
Bott, Fred
Bowditch, Fred C.
Boynton, G. W.
Brady, Jesse
Braentigam, Sigel
Bray, Moses
Breed, J. E.
Brickey, Peter
Brokaw, Lionel
Brown, Jas. E.
Brown, J. Few
Bugbee, D.
Buhler, John
Bull, Joshua
Burr, John
Burden, O. E.
Burgess, C. M.

Bittenbender, J. W.
Bittner, August
Bixler, Chas. K.
Blanchard, O. C.
Bogart, Lemuel
Bohn, Gustav
Bohnert, Franz

Burley, C. S.
Burroughs, C. W. M.
Burton, L.
Burton, S.
Bussanmus, Otto
Byer, David

Cady, J. E.
Camp, George W.
Candler, Mathilda
Carder, A.
Carlzen, S. M.
Carter, P. P.
Carver, Robt.
Carver, H I.
Carey, Wm. W.
Case, Wm. W.
Cassens, Wilke
Chandler, Lyman
Chapman, E. H.
Chapman, E. B.
Chatfield, Irving G.
Cheyney, J. L.
Choate, W. A.
Christie, A.
Christie, John H.
Church & Son, S. J.
Clark, E. H.
Clark, S. H.
Clark, W. E.
Claus, A. H.

Clemens, Noah
Coombs, Samuel
Coe, Asher M.
Cole, G. W.
Cole, M. A.
Coleman, D. C.
Colwick, J. N.
Common, J. R.
Conger, J. N.
Cook, Prof. A. J.
Cook, Fred W.
Cook, Geo. W.
Conrad, S. W.
Conser, John
Coppin, Aaron
Cornwell, E C.
Cox, John A.
Cox, Lurinda
Crane, Burton B.
Cronkleton, E. J.
Crotty, John
Crotzer, A. S.
Cummings, Wm. H.

Dadant & Son, Chas.
Dahl, Rev. T.
Daniher, D. D.
Daty, John
Dans, Joseph
Davis, C. M.
Deahl, H. P.
Decker, C. K.
Dedman, J. O.
Delmonley, E.
Demaree, C. W.
DeWitt, Graham S.
Eastman, A.

Dexter, Austin
Deyo, J. T.
Dibbern & Son, C. H.
Dittmer, Gus
Doolittle, G. M.
Downing, Walter B.
Draper, A. N.
Drydale, T. I.
Duncan, A. J.
Duncan, W. H.
Dyson, F.

England, P. J.

Eastwood, L.
Ellicott, Thos.
Elwood, R. H.
Elver, E. C.
Emmons, A. I.
Erkel, T. C.
Evans, H.
Evans, T. C.
Eversole, Geo. H.

Fairchild, Jesse
Feathers, Harvey
Feazel, B F.
Ferris, Dean
Flanagan, E. T.
Flick, Geo. W.
Foote, Ireneus M.
France & Son, Edwin
Frame, H. G.
Freeborn, S. I.
Freeman, G. M.
Fuller, Russell

Gammon, R.
Gander, A. M.
Garretson, P. A.
George, Milo
Gibbs, E. P.
Gifford, H. C.
Gish, Geo. W.
Gordon, Homer E.
Gray, Jas. L.
Greeley, Elbert
Green, J. A.
Green, Mrs. S. C.
Gresh, Abel
Gress, Dr. P. C.
Grimm, Christopher
Gross, Gustav
Gunderson, Frank
Gunther, F. B.

Haeger, John F.
Hagan, John Jr.
Haines, J. B.
Hallam, Edward
Hambaugh, Jos. M.
Harnes, Josephus
Hamilton, Wm.
Hanson, A. L.
Harmer, Walter
Harrison, Mrs. L.
Harker, Jas.
Harseim, G.
Hart, F. M.
Hart, John H.
Harvey, J. M.
Haskin, Dr. A. S.
Hastings, M. E.
Hatch, C. A.
Hayes, F. T.
Heddon, James
Heitchen, Wm.
Helser, Joel
Hesmer, Marshall
Hettel, Mathias
Hewes, Wm. G.
Hill, Wm.
Hilton, Geo. E.
Hollenbeck, Cornelius
Holmberg, J. A.
Holser, John
Hoover, Oliver
Hone, Geo.
Hoshall, A. E.
Howe, P.
Howell, Edward D.
Howell, Geo. P.
Hubbard, E.
Huff, C. A.
Hunsicker, H. B.
Hunt, M. H.

Jackson, Mrs. C. F.
Jacobson, Jacob C.
Jardine, James
Johnson, G. M.

Kauffman, D.
Kennady, D. Y.
Kenyon, D. T.
Kerr, Geo. A.
King, D. N.
King, Ira A.
King, James A.
Kingsley & Osterhaut
Kinzie, J. M.
Kirk, E. L.
Kirkpatrick, Geo. H.
Kistenbroker, A. W.
Kloer, T. H.
Knapheide, Rudolph
Koeppen, Aug.
Krumm, Fred J.
Kuebel, Edward J.

Labrier, H. C.
Lafler, Lewis
Lammey, John
Lampman, Henry
La Rue, Henry
La Rue, Jeremiah
Lathrop, H.
Lattner, Paul
Laurence, Chas.
Lawrence, J. J.
Laxton, J. G.
Leahy, R. B.
Lee, H. W.
Leffingwell, S.
Lemart, Thos. H.
Le Roy, J. W.
Lewis, Geo. W.
Lindorff, Albert
Liston, Elijah
Little, B. F.
Livingston, T. W.
Longmate, John
Lucas, David
Ludke, Chas.
Ludwig, G.
Lyman, W. C.
Lyon, Wm.

McCormack, Wm. B.
McDaniel, D. W.
McFarlin, T. H.
McFatridge, P. W.
McIntyre, J. F.
McKean, Mary P.
McNay, Frank
McNeill, James
Marden, Henry
Margileth, Edw.
Martin, J. H.
Martin, Wm.
Mason, Dr. A. B.
Mathews, R. J.
Miles & Hubbard
Miles, G. W.
Millard, Dr. N. T.
Millard, D.
Mill; Mrs. J. M.
Miller, Adolf
Miller, Arthur C.
Miller, Dr. C. C.
Miller, G. M.
Minthorn, P. W.
Moe, D. F.
Moses, Albert
Muth, Chas. F.

Nau, John
Nebel & Son, John
Nelson, Jas. A.
Newman, J. H.
Newman & Son, Thos. G.
Nipe, James
Nippert, John
Nisbet, H. B.
Northrup, H. J.
Northrup, Philo
Norton, P. L.

Ochsner, J. J.
Osborne, Robert
Otto, Henry

Pangborn, H. L.
Perry, F. P.
Peterman, E.
Petty, W. T. F.
Pettis, Chas. E.
Pfunter, W. L.
Phelps, N. T.
Pickard, S. E.
Pierce, L. C.
Pierce, Thos.
Pike & Van Allen
Pond, Jos. E.
Presnell, J. A.
Pressey, B. L.
Price, J. W.
Prideaux, W. H.
Pullen, Drisbrow
Putnam, Wm. H.

Quick, Chas. E.
Quinlan, Thos. B.

Randall, A. F.
Raney, S.
Rasmussen, Wm. Muth
Reeds, J. A.
Reese, Jno. S.
Reyburn, Mrs. M. P.
Reynolds, R. D.
Rice, Benj. E.
Rich, S. W.
Richenbacher, Adam
Rinefort, A. E.
Ripps, Emil
Robinson, A. F.
Robinson, Jas. W.
Robbins, Daniel E.
Robbins, Geo. F.
Robison, J. A.
Rogers, G. D.
Rohland, Otto
Roop, Henry W.
Root, A. I
Root, Ernest R.
Rosebrook, H. H.
Rosser, R. A.
Roulo, F.
Rouse, J. W.
Rowe, W. M.
Row, W. J.
Russell, S. E.

Salisbury, E.
Sandford, E.
Sawyer, Lewis A.
Sayles, J. C.
Schach, Fred
Schafer, F. W.
Schleigh, John J.
Schmidt, R. H.
Scheuring, Paul
Scherer, C.
Schock, Geo.
Scofield, J. T.
Scoles, Dr. H. J.
Scott, Geo. G.
Seals, Emma L.
Secor, Eugene
Smith, Geo.
Smith, Louis
Smith, S. & A. M.
Snell, F. A.
Snyder, John H.
Southard, Wm. B.
Spangenberg, C.
Springer, Mrs. J. C.
Stahl, E.
Stahmann, W. J.
Stainінger, N.
Staley, H. K.
Standish, B. H.
Stark, Henry
Stecher, Theo.
Stephens, W. B.

Secor, W. G.
Seyer, A. M.
Shaw, Jas. E.
Shepard, Horace
Sherington, Alex
Sherman, Mrs. S. E.
Shirer, Green R.
Shoemaker, N.
Shone, J. A.
Shuck, S. A.
Shumaker, Jonas
Sisson, H. B.
Smith, David
Smith, Fred
Talbert, Mad.
Tantum, Ellwood C.
Taylor, B.
Taylor, Emerson F.
Taylor, Henry
Taylor, J. N.
Taylor, M.
Thatcher, Will
Theilmann, C.
Thilenius, G. C.
Unger, Henry
Vance, W. A.
Vandereike, Adolph
Walker, Byron
Walker, J. E.
Walters, Dr. L. S.
Watts, W. H.
Weil, Joseph
Weile, Chas. H.
Weishoff, F.
Wells, B.
West, Chas.
Wheeler, J. C.
Whitford, G. M.
Whitney, Geo. W.
Whittlesey, E.
Wicherts, A.
Wight, Marcus
Wilcox, F.
Wilcox, J. W.
Yates, Lafayette
Stephenson, Henry W.
Sterritt, J. P.
Stewart, John C.
Stewart, W. T.
Stevenson, D. P.
Stolley, Wm.
Stoops, Mrs. Mary
Stowe, H. A.
Stow, N. L.
Stuart, B. F.
Strong, J. L.
Stupeck, F.
Sullivan, Geo. W.
Syphrit, J. B.
Thomas, C. F.
Thornton, Jno. A.
Thurlow, Thos.
Timpe, Jacob T.
Travis, F. W.
Travis, I. A.
Trepus, Daniel
Trott, Jas. A.
Turner, Rev. T. E.
Urban, Otto J. E.
Vogelman, David
Willman, R.
Wilson, G. W.
Winslow, O. F.
Winsor, W. O.
Winter, H. F.
Witzig, Mrs. Henry
Wolcott, Wm. C.
Woodman, L. C.
Woodside, R. H.
Wright, David H.
Wright, E. R.
Wright, Geo. A.
Wright, W. D.
Wright, W. S.
Wurth, Daniel
Wyrick, Montgomery
Youngblood, J.

HONEY STATISTICS FOR 1890.

The past season was not a favorable one for bees, and the amount of honey produced was 27 per cent less than in 1889, when 2,128,060 pounds were produced. In 1890 there was but 1,566,584 pounds produced, over half of which came from Northern Illinois.

NORTHERN DIVISION.	HONEY.			Honey per pound
	No. lbs. produced in 1889, Assessors' returns.	No. lbs. produced in 1890, compared with 1889.	No. lbs. produced in 1890.	
Boone	27,553	70	19,287	$0 15
Bureau	78,678	*75	59,008	.....
Carroll	42,773	31	13,260	18
Cook	3,965	47	1,863	16
DeKalb	13,076	100	13,076	12
DuPage	8,020	57	4,571	14
Grundy	13,586	*54	7,336	.....
Henderson	32,834	80	26,267	11
Henry	66,833	64	42,773	21
Iroquois	37,156	72	26,752	13
JoDaviess	37,996	120	45,595	10
Kane	19,536	50	9,768	20
Kankakee	15,138	52	7,872	14
Kendall	15,720	42	6,602	16
Knox	50,693	40	20,277	16
Lake	12,172	85	10,346	14
LaSalle	57,855	87	50,334	12
Lee	68,563	90	61,706	15
Livingston	27,403	52	14,249	21
Marshall	10,470	70	7,329	11
McHenry	32,952	75	24,714	14
Mercer	78,564	55	43,210	12
Ogle	34,371	70	24,060	13
Peoria	35,557	50	17,778	10
Putnam	8,530	*78	6,653	.....
Rock Island	51,206	55	28,163	15
Stark	27,673	75	20,755	17
Stephenson	32,137	78	25,067	12
Warren	54,540	79	43,087	12
Whiteside	124,364	67	83,324	15
Will	17,695	35	6,193	16
Winnebago	46,649	52	24,257	11
Woodford	12,972	77	9,988	17
Total or average	1,197,230	67	805,520	

Honey Statistics—*Continued.*

CENTRAL DIVISION.	HONEY.			Honey per pound
	No. lbs. produced in 1889, Assessors' returns.	No. lbs. produced in 1890, compared with 1889.	No. lbs. produced in 1890.	
Adams	35,527	100	35,527	$0 12
Brown	10,568	87	9,191	13
Calhoun	6,862	40	2,745	10
Cass	5,998	*85	5,098	15
Champaign	26,289	100	26,289	10
Christian	31,229	103	32,166	13
Clark	8,296	90	7,466	13
Coles	9,861	65	6,410	15
Cumberland	2,670	125	3,337	15
DeWitt	12,593	110	13,852	15
Douglas	12,336	100	12,336	10
Edgar	14,061	83	11,671	16
Ford	9,839	75	7,379	12
Fulton	56,901	77	43,813	17
Greene	27,262	*68	18,538	10
Hancock	66,489	*72	49,867	11
Jersey	11,354	75	8,515	15
Logan	14,141	72	10,087	18
Macon	7,205	140	19,088	18
Moucoupin	28,234	55	15,529	17
Mason	5,349	*78	4,172	12
McDonough	69,650	45	31,345	11
McLean	40,872	62	25,341	15
Menard	4,375	82	3,587	12
Montgomery	33,888	*78	26,433	10
Morgan	3,500	100	3,500	12
Moultrie	3,176	100	3,176	15
Piatt	4,480	*102	4,570	15
Pike	21,731	80	17,385	12
Sangamon	21,512	70	15,058	20
Schuyler	14,322	*77	11,028	10
Scott	782	60	469	15
Shelby	6,465	100	6,465	12
Tazewell	53,205	89	42,564	22
Vermilion	10,844	87	9,434	13
Total or average	691,872	77	534,527	

Honey Statistics—*Continued.*

SOUTHERN DIVISION.	HONEY.			Honey per pound
	No. lbs. produced in 1889, Assessors' returns.	No. lbs. produced in 1890, compared with 1889.	No. lbs. produced in 1890.	
Alexander	775	100	775	$0 15
Bond	8,396	66	5,541	14
Clay	10,952	100	10,952	15
Clinton	10,479	90	9,431	15
Clawford	†7,792	88	6,857	16
Edwards	4,145	67	2,777	12
Effingham	5,604	73	4,091	12
Fayette	8,004	*82	6,563	.....
Franklin	4,425	120	5,310	15
Gallatin	1,398	105	1,468	12
Hamilton	12,663	133	16,842	12
Hardin	2,820	50	1,410	10
Jackson	.....	.....	.....	.....
Jasper	7,386	100	7,386	10
Jefferson	†8,179	92	7,525	10
Johnson	2,051	100	2,051	20
Lawrence	2,323	70	1,626	10
Madison	7,758	98	7,598	10
Marion	6,480	70	4,536	18
Massae	1,611	*197	1,724	29
Monroe	1,066	50	533	15
Perry	3,185	91	2,898	14
Pope	.....	.....	.....	.....
Pulaski	4,730	115	5,450	10
Randolph	9,518	75	7,138	11
Richland	14,317	105	15,033	12
Saline	17,895	137	24,516	12
St. Clair	7,032	80	5,626	14
Union	8,445	81	6,840	17
Wabash	†4,929	*81	3,992	20
Washington	16,277	72	11,719	15
Wayne	†27,846	105	29,238	13
White	6,282	90	5,654	12
Williamson	4,191	82	3,437	17
Total or average	238,958	95	226,537	

*Estimated.
†Estimated same as previous year.

HONEY STATISTICS FOR 1891.

The year 1891 was very unfavorable to the production of honey, and only three-fourth as much was made as in 1890. The 1891 product amounted to 821,678, pounds which brought, on an average, 14 cents per pound. The total value of the honey produced in 1891 was $112,934. The number of hives of bees reported in 1891 was 120,252.

HONEY AND BEES.

NORTHERN DIVISION.	HONEY.					BEES
	No. lbs. produced in 1890, Assessors' returns.	No. lbs. produced 1891 compared with 1890.	No. lbs. produced in 1891.	Price per pound.	Value of honey produc'd, 1891.	Number of hives, 1891.
Boone	12,683	87	11,034	$0 12	$1,324	899
Bureau	13,525	*75	10,144	15	1,522	3,135
Carroll	18,301	25	4,575	*13	595	1,762
Cook	2,245	80	1,796	14	251	318
DeKalb	8,470	75	6,352	12	762	894
DuPage	6,330	105	6,646	15	997	293
Grundy	8,582	*95	8,153	12	978	1,264
Henderson	10,335	60	6,201	11	682	2,011
Henry	11,234	50	5,617	15	842	2,193
Iroquois	18,173	96	17,446	14	2,442	3,081
JoDaviess	13,798	60	8,279	12	993	1,294
Kane	11,687	97	11,336	12	1,360	848
Kankakee	13,752	75	10,314	15	1,547	1,158
Kendall	11,711	105	12,296	12	1,475	855
Knox	7,713	55	4,242	19	806	2,459
Lake	8,968	110	9,865	15	1,480	522
LaSalle	51,219	110	56,341	15	8,451	3,643
Lee	31,959	90	28,763	13	3,739	2,717
Livingston	16,206	94	15,234	20	3,047	2,233
Marshall	5,770	73	4,212	11	463	853
McHenry	17,376	93	16,160	12	1,939	1,120
Mercer	10,270	53	5,443	15	816	2,109
Ogle	14,034	107	15,016	13	1,952	1,543
Peoria	6,700	50	3,350	*16	537	1,227
Putnam	3,970	25	992	10	99	623
Rock Island	4,739	70	3,317	14	464	1,024
Stark	2,274	102	2,319	13	301	754
Stephenson	10,515	85	8,938	13	1,162	1,010
Warren	16,089	71	11,423	15	1,713	2,715
Whiteside	58,627	75	43,970	12	5,276	3,916
Will	13,329	90	11,996	15	1,799	1,294
Winnebago	12,108	73	8,839	13	1,149	1,091
Woodford	10,102	95	9,597	20	1,919	1,283
Total or average	462,794	82	380,206	$0 15	$52,882	52,141

Honey Statistics—*Continued.*

CENTRAL DIVISION.	HONEY.					BEES
	No. lbs. produced in 1890, Assessors' returns.	No. lbs. produced 1891 compared with 1890.	No. lbs. produced in 1891.	Price per pound.	Value of honey produ'd, 1891.	Number of hives, 1891.
Adams	16,729	*47	7,863	$*0 11	$865	1,431
Brown	‡‡1,735	*65	1,128	*12	135	‡‡222
Calhoun	4,130	100	4,130	11	454	597
Cass	8,858	*67	5,935	12	712	907
Champaign	15,930	52	8,284	11	911	2,547
Christian	11,339	57	6,492	14	909	1,512
Clark	4,575	103	4,712	18	848	728
Coles	††3,304	87	2,874	16	460	††596
Cumberland	**7,442	75	5,581	12	670	**666
DeWitt	14,005	25	3,501	15	525	989
Douglas	6,414	70	4,490	12	539	671
Edgar	†14,061	42	5,906	13	768	†1,072
Ford	3,327	25	832	*16	133	458
Fulton	24,347	95	23,130	15	3,469	3,825
Greene	‡84,651	50	42,325	13	5,502	‡1,772
Hancock	7,661	55	4,213	10	421	1,191
Jersey	14,288	66	9,430	17	1,603	916
Logan	10,279	25	2,570	15	385	1,464
Macon	11,058	45	4,976	14	697	712
Macoupin	8,212	80	6,570	12	788	1,942
Mason	8,166	72	5,879	13	764	904
McDonough	2,921	37	1,081	15	162	729
McLean	36,321	58	21,066	20	4,213	3,559
Menard	4,775	60	2,865	12	344	1,100
Montgomery	5,940	85	5,049	12	606	1,132
Morgan	7,140	90	6,426	12	771	765
Moultrie	††3,030	90	2,727	15	409	††229
Piatt	6,082	45	2,737	15	410	779
Pike	¶¶8,231	40	3,292	10	329	¶¶881
Sangamon	**13,198	47	6,203	18	1,116	**1,314
Schuyler	9,185	*65	5,970	12	716	1,566
Scott	2,315	100	2,315	15	347	109
Shelby	3,849	87	3,349	14	469	474
Tazewell	11,880	65	7,722	16	1,235	1,839
Vermilion	11,114	50	5,557	15	833	1,962
Total or average	406,542	58	237,180	$0 14	$33,518	41,630

Honey Statistics—*Continued.*

SOUTHERN DIVISION.	HONEY.					BEES
	No. lbs. produced in 1890, Assessors' returns.	No. lbs. produced 1891 compared with 1890.	No. lbs. produced in 1891.	Price per pound.	Value of honey produc'd, 1891.	Number of hives, 1891.
Alexander	†775	102	790	$0 11	$87	†170
Bond	6,260	77	4,820	14	675	1,060
Clay	8,600	50	4,300	10	430	1,483
Clinton	5,512	95	5,236	12	628	916
Crawford	§§1,405	63	885	15	133	§§424
Edwards	5,434	72	3,912	12	469	644
Effingham	4,813	86	4,139	10	414	1,068
Fayette	†8,004	*82	6,563	*13	853	†588
Franklin	†4,425	84	3,717	14	520	†681
Gallatin	4,136	102	4,219	14	591	354
Hamilton	††4,755	100	4,755	12	571	††472
Hardin	§1,606	*101	1,622	11	178	§136
Jackson						
Jasper	¶4,705	80	3,764	10	376	¶776
Jefferson	†8,179	70	5,725	11	630	
Johnson	**2,911	112	3,260	13	424	**402
Lawrence	**7,694	*78	6,001	10	600	**895
Madison						
Marion	†6,480	95	6,156	20	1,231	†957
Massac	‡‡8,288	105	8,702	12	1,044	‡‡683
Monroe	6,920	*67	4,636	10	464	745
Perry	3,906	100	3,906	15	586	225
Pope						
Pulaski	3,055	109	3,330	12	400	569
Randolph	15,068	75	11,301	14	1,582	1,602
Richland	11,856	70	8,299	10	830	1,388
Saline	¶29,326	100	29,326	14	4,106	¶1,336
St. Clair	23,105	60	13,863	17	2,357	2,396
Union	8,891	106	9,424	15	1,414	1,157
Wabash	‡‡2,400	92	2,208	13	287	‡‡480
Washington	15,794	86	13,583	13	1,766	1,975
Wayne	§§18,021	83	14,957	10	1,496	§§1,324
White	7,483	*89	6,660	12	799	868
Williamson	4,191	*101	4,233	14	593	†707
Total or average	243,998	84	204,292	$0 13	$26,534	29,491

*Estimated. †Estimated same as last report. §Incomplete—1 township not returned. ¶Incomplete—2 townships not returned. ‡Incomplete—3 townships not returned. **Incomplete—4 townships not returned. ††Incomplete—5 townships not returned. §§Incomplete—6 townships not returned. ¶¶Incomplete—11 townships not returned. ‡‡Incomplete—a number of townships not returned.

We are most kindly indebted to R. A. Beal, of Ann Arbor, Mich., publisher of "Dr. Chase's Receipts or Information for Everybody," for the "Bee-Keeping Department" following, which by his consent we extract from this very valuable work.

BEE-KEEPING DEPARTMENT.

BY THE PUBLISHER.

NOTE—We are indebted to the courtesy of H. M. Johnson, of Marshall, Mich., a practical and experienced bee-keeper, who has also published a work upon this subject, called "The Farmer's Guide to Bee Keeping," which is the best work of the kind that has come to our knowledge. He has kindly permitted us to make such extracts as we saw fit, but our space will not allow us to give full details, but to give enough so that anyone can understand the general principles, and manage bees quite successfully. If any one wishes a thorough and scientific knowledge of the subject in all its details, and also how to make the various kinds of hives, bee pasturage, etc , Mr. Johnson's book should be in their hands.

FUNDAMENTAL POINTS IN BEE-KEEPING.

There are four fundamental points which render bee-keeping a success, viz : the *man*, the *movable comb hive*, the *season*, and the *honey machine* or "mell extractor." The operator should be acquainted with and understand the nature and working of the bee to enable him to manage them properly. He should then have a hive that would answer all his needs in every department of bee culture, and in the making of hives should aim at simplicity. The honey machine is acknowledged by all bee-keepers to be the greatest improvement to the science since the invention of the movable comb hive, by the use of which we claim to double and even treble the quantity obtained by the old method:

WHAT CONSTITUTES A SWARM OF BEES.

Every prosperous swarm of bees must contain one queen, several thousand workers, and a portion of the year a few hundred or even thousand drones. We will now proceed to describe the different bees which constitute a swarm, and the labors of each.

DESCRIPTION OF THE QUEEN.

The accompanying cut will illustrate the appearance of this most important member of this industrious colony. The queen is the only perfect

female bee in the colony, and hence the name of queen or mother bee. In form she is longer than either of the other species. She is usually of a dark color, except the under side of the abdomen, which bears somewhat on the

golden shade. All her colors are bright and glossy, and she has but little of the down or hair seen on the drones or workers. Her wings are short, reaching a little more than half way back. Her posterior is more pointed and has the appearance of curving under more than that of the workers. She has a sting, but never *uses* it, except in combat with a rival queen.

THEIR AFFECTION FOR THEIR QUEEN.

The queen is always treated with the greatest affection by the bees. If she is removed from them the whole colony is thrown into a state of the most intense agitation. All labor is abandoned and the bees run wildly over the comb and rush from the hive in anxious search for their beloved mother. If they cannot find her, they returned to their desolate home and manifest by their sorrowful tones their sense of this great calamity, as no colony can long exist without the presence of the mother bee.

THE AGE OF THE QUEEN.

The average age of the queen is about three years. None should be allowed to become older than that, as after that age they often become barren, or deposit eggs which produce only drones, and the colony soon wastes away without being replenished with worker broods.

Like the drone, the queen never goes to gather honey, her only duty being to deposit the eggs, both male and female. Yet she is as dependent on the workers as they are upon her, and both are dependent upon the drones, notwithstanding they are the acknowledged idlers of the colony.

DEPOSITING THE EGGS.

In all well populated hives young broods may be found in different stages of development, every month in the year, with few exceptions. The queen carefully examines each cell by trusting her head in, before depositing the egg, to see if it contains bee breed or honey, as she never uses a cell partly filed. If she finds the cell clear she immediately curves her abdomen and

inserts it. She remains but a second or two and then leaves the cell, when an egg about a sixteenth of an inch long may be seen attached to the base of the cell, usually a little to one side.

HATCHIG.

The eggs remain unchanged for three or four days. They are then hatched, the bottom of each cell containing a small white worm, which floats in a whitish transparent fluid, which is deposited by the nursing bees, and by which it is probably nourished. It gradually enlarges until its two extremities touch, which forms a ring. It continues to increase during five or six days, until it occupies the whole breadth and nearly the length of the cell. The nursing bees now seal over the cell with a light brown cover. As soon as the larvæ is perfectly enclosed, it begins to line the cell by spinning around itself a silky cocoon. When this is finished it undergoes a great change, from the grub to the the nymph or pupa state, and does not bear a vestige of the previous form. It has now attained its full growth, and the large amount of nutriment taken serves as a store for developing the perfect insect.

Queens are reared from eggs that, if deposited in worker cells, would produce worker bees, but by larger cells and royal jelly queens are developed. The time required to raise a queen is three days in the egg, and five days as a worm, and on the sixteenth day she has attained the perfect state of a queen bee. The working bee comes forth perfected in twenty-one days from the time the egg is deposited. The drone takes twenty-four or twenty-five days.

IMPREGNATION OF THE QUEEN.

It is acknowledged by all apiarians of the present day, that the act of copulation takes place high up in the open air, and usually between the fourth and tenth days after leaving the cell. If fertilization does not occur before she is twenty days old it never takes place, and the eggs deposited will only produce drones.

THE WAILINGS OF THE QUEEN.

The queen has two notes; one of defiance, called piping; the other is a note of fear, a plaintiff, pitiful wail, mournful in the extreme, and lingering long in the memory when once heard. This mournful note is set up when removed from their hive, when seized by the other bees to destroy her life, or when her colony are starving. Whenever this note is heard turn not a deaf ear, but immediatly respond to the call, for there is something wrong. Rigidly examine the hive and remove the cause of complaint.

An unimpregnated queen is called a "virgin queen." They are capable of laying only drone eggs. A fertile queen is one which has mated with a drone, and is capable of laying eggs which may become either workers, drones or queens. A barren queen is one who has passed the stage of

laying eggs, that will become either workers or queens, but continues to lay eggs which produce only drones. The period of fertility lasts from two to three years, and cannot be depended on longer safely. All such queens should be destroyed and fertile ones introduced, that the colony may not become extinct.

WORKER BEES.

They constitute the mass of the colony, and upon them devolve all the labors of the hive. They gather the honey and pollen—the food for the young. They nurse and feed the young brood, and defend their house against invasion of enemies. The care which the workers bestow upon their nurslings is wonderful, and they manifest the most tender attachment for them. The slightest movement of these nurses approaching to administer to the young brood is sufficient to attract them to their food which they devour voraciously, and it is unsparingly administered. After the cells have been sealed up they seem to cease from anything like attention, although if the brood comb is meddled with, their utmost ire is kindled. Bees reared in the spring and early summer are shorter lived than those reared later in the season. Each worker is armed with a formidable sting, and when disturbed does not hesitate to use it. The extremity being barbed the bee can rarely withdraw it, and in losing her sting she loses her life and dies in defending her home and sacred treasures.

DRONES.

The "gentleman of leisure," who leads an easy life, taking no thought of the morrow. They toil not, neither do they spin, but let others bear the heat and burden of the day. They differ from the queen and worker in form and structure and are of a darker color and less active. They have no proboscis for gathering honey; no basket for pollen; no sack for wax; and no sting to defend themselves with. They seem to be a necessary evil, consuming the fruits of the labor performed by others. Yet without them the brood would soon become extinct. Microscopic examination shows that they are the males of the bee family, and in the performance of the functions appointed to them, they invariably yield up their life. The duties devolving upon them are to accompany the young queens upon their bridal tour. In the performance of the same their life becomes the sacrifice. In July and August if there seems to be a prospect of a short supply of honey, the laborers set up a vigorous persecution, driving them from or into a corner of the hive, and when through hunger and captivity, they become weakened, and being without a sting, unable to defend themselves, they fall helpless victims to their fearful onslaughts. They rush upon them and sting them with such fury that they die at once. They seize them by their wings and gnaw them in such a manner as to prevent their escape by flight, and crawling off death overtakes them.

THE ITALIAN OR LIGURIAN BEES

Are conceded by all to be far superior to the black bee above described, although they do not differ essentially in conformation, yet for profit and amiability are a great improvement. In color they are a beautiful golden hue. The worker when pure has three distinct bands about the body; the color and bands being the test of purity. The queens are more fertile and prolific, depositing their eggs earlier in the season; swarm oftner and earlier when not interfered with; protect themselves from robber bees and moths more effectually; carry in more honey, gathering from the small variety of red clover and some other plants whose cells are so deep that the common bee cannot reach the nectar distilled in the bottom of the flower cups; will not sting upon as slight provocation, and can be handled more easily. They are stronger and more hardy, and live longer, although performing more labor. They are also more industrious, often going to the fields in very unfavorable weather.

TO PRESERVE PURITY OF STOCK.

Many object to Italian bees from apprehension of their becoming hybridized on account of black bees being kept in their vicinity; but the fact of their throwing off swarms more frequently and earlier in the season, would easily obviate that trouble. Both queens and drones are more active and agile than the common kind, and from this fact would usually encounter one another; besides the wings of both queens and drones are finer than the common kind, and the sounds produced in flying are clearer and higher-toned, hence, they are readily able to distinguish each other when on the wing.

REARING ITALIAN QUEENS.

All practical bee-keepers have a way of their own of rearing queens. I would recommend the use of a small hive or nucleus, as they are termed. They are made about six or eight inches long, five inches wide and six inches deep, inside measure, with three miniature comb frames each. If your whole apiary is Italianized, and all the bees are the same for an extent of three miles around, there will not be much difficulty in obtaining purely fertilized queens, but if such is not the case, some of the following methods may be adopted to secure the desired result; either the rearing of drones early in the spring, before the black drones make their appearance, or late in the season, after they have been destroyed; otherwise the manner of double working them will have to be resorted to.

If the apiary is large, perhaps the last named method would be the most practicable; as it would be almost impossible to obtain the desired results by either of the others, unless in the hands of an experienced operator. The manner of double working them is very simple. It is merely raising all the queens you may desire for the whole apiary, from a queen of undoubted

purity, and let the young queens mate as they will with black or Italian drones. According to the theory adopted by myself, and the majority of bee-keepers, the drones of the young queens will be pure, while the workers of a queen fertilized by the black drone will be hybrides. From this theory it is evident that the drones of your apiary the following spring will be Italian, and you have only to proceed and raise another set of queens from the same old one (or what would be better, from a new queen from another apiary), which would produce a cross, and prevent in and in breeding. If any of the queens of the second year's raising do not produce workers of undoubted purity, namely those with three distinct bands on the abdomen, she should be replaced by another, until the desired purity is attained. It is not necessary to make much preparation for queen-raising until the drones begin to make their appearance, as they should be, at least two weeks old, at the time the queen sets forth on her bridal tour. When the proper time arrives to prosecute your labors, the nuclei should be stocked with combs in the frames, and a little honey, about one or more frames full, in order that the bees may concentrate their labors on the queen cells, instead of being obliged to store their hive with honey. To insure success it is also necessary to have some brood in the nuclei to retain the bees, and keep them on the increase, and not allow them to diminish in numbers; for the nuclei should be kept well stocked with bees. The brood should be over seven days old from the time the egg was deposited; so that the bees will not construct queen cells from brood that you do not wish to use. To procure the bees and comb it is best to obtain the hive from a distance of two or three miles; drive out the bees into a box, as in transferring, search out the queen, divide the combs and put them in the nucleus; then put into each nucleus at least one quart of bees, without a queen. A good swarm in May will furnish bees enough for about five nuclei, while in June sufficient may be obtained tor ten. The bees in the nucleus should be confined, with a little ventilation, for from twelve to twenty-four hours, and if the night is cool, should be covered or carried into a room, so that their brood may not become chilled.

The nuclei should be placed promiscuously about the yard, so that when the queen makes her flight, she may return safely to her home and not enter another, and in the mistake lose her life. The bees from the nucleus may be obtained from your own yard, in which case it will be necessary to confine them for at least three days, that they may not return to their old habitation when set at liberty. If it is desired to put the brood that you wish to have queens reared from, into the nucleus at the time of putting the bees in, it can be done if done quickly, that it may not become chilled in the process; or it can be put in at the time they are allowed to fly out. I prefer the plan advocated by Mr. Alley, that is, to introduce your best queens, or those you wish to rear from, directly into the nucleus and change combs from them, when there are eggs deposited there, to others from which to rear queens. In all cases, to raise large, strong, fertile queens, I think it best to introduce the

brood into the nucleus before the eggs hatch; as in that case the larvæ is fed, upon the royal jelly from the time the egg hatches until it is sealed over, and therefore would receive more than a grub that is well advanced. When the brood is given to the nucleus, the bees will often start several queen cells from it, and in from ten to fourteen days some of the cells will hatch. Just before they do all the cells but one may be removed and placed in other nuclei, or in hives that have been queenless for at least twelve hours. This is much safer than to allow them to hatch, and then attempt to introduce a virgin queen to a hive or nucleus, as they will rarely receive a queen until after impregnation takes place.

During the months of June, July and August. if the weather is pleasant the queen will invariably come out to meet the drone on the fifth day after leaving the cell, and in two or three days she will commence laying eggs. She should be removed from the nucleus after impregnation takes places, and before she commences to lay, if it is desired to rear another queen in the same nucleus. If she is allowed to commence laying before being removed, the bees will, after her removal, begin to construct queen cells from the eggs laid by her, in which case it would be necessary to keep the nucleus queenless for five days, or introduce a cell just ready to hatch within twelve hours after removing the queen.

By the Secretary. In addition to the above plan of rearing Italian queens take the hive that has a queen that is the least desirable, search her out and pinch off her head, then let the hive remain about seven days without a queen; take out all the brood frames and destroy all the queen cells they may have made; return all the brood frames to the hive except one, and in its stead put a brood frame taken out of the hive containing best queen, using care to get a frame containing fresh laid eggs. On this broad frame they will start sometimes quite a number of queen cells, which will begin to hatch out in from ten to fourteen days.

Then to divide swarms to increase colonies and prevent swarming begin before the queen cells are in danger of hatching. Divide any colony that is strong, placing one-half the frames in each hive, seeing that each has a good supply of brood. If the queen be a good one leave her in one of the hives, and in the other insert one of the queen cells. If they destroy this cell, after they have been a week without a queen, destroy the cells they may have started and insert another queen cell.

INTRODUCING THE QUEEN.

The proper time for moving the black queen is the middle of the day—great care being taken not to alarm the bees when the frames are removed. Smoke, or even sudden jarring. will cause the queen to seek the bottom or the hive or some other place of refuge. Carefully raised off the top, without jarring the hive and alarming the bees, near you place an empty hive in which to put the frames as you take them out, examine carefully the combs in the

center of those first filled with brood, and if the bees are not disturbed, they will be spread evenly over the surface, when the queen will be easily recognized and can be picked up with the fingers. If the bees become alarmed the queen, being the most shy and retiring, will seek to conceal herself by hiding in a mass of bees in the corners of the hive, or anywhere, that she may be out of sight, when a close scrutiny will be needed to discover her. If you do not succeed in finding her return the entire mass to the hive, and make the effort at some future day, or divide the swarm, putting one-half the contents in the empty hive, and, if possible, the greatest number of bees. Separate the combs in each, putting in only half the number, or even less would be preferable.

In a few minutes the bees will become quiet, and the queen will leave her hiding place, her locality being readily detection by the quietness of the bees near her, and their restlessness on the other combs. The combs must now be returned to the hive in the position they occupied before being removed. When the bees are returned to the hive destitute of a queen they will at once commence operations to remedy the defect, by converting some of the worker larvæ into queens, which can only be done before the seventh day, as at about that time all the eggs left have passed the stage when it will be possible to change them thus.

The combs must be again removed, and all royal cells that contain larvæ cut off, as the safety of the new queen depends largely on their entire removal. Mr. L. A. Aspinwall, gives a very simple and easy process, that of "immersing the queen in a little honey, slightly warmed, if necessary, and dropping her among the bees, they immediately commence licking her off, and forget that she is a usurper."

THE HIVE.

Next in importance to the bees is the hive, and as the whole land teems with bee-hive sharks who are continually introducing their worthless wares on the ignorant and innocent bee-keeper, and I am compelled to say that 90 per cent. are entirely valueless as bee homes, I believe that it is generally conceded by practical apiarians that the Rev. L. L. Longstroth has accomplished more to advance the science of apiculture in the introduction of the movable frame than the combined ingenuity from the first introductton of hives to the present time. It has never been my good fortune to obtain a movable comb frame so cheap and simple, and at the same time so easily removed from the hive as the Langstroth frame. A good hive should possess the following points, viz.: 1st, cheapness; 2d, simplicity; 3d, durability; 4th, as good for winter as summer; 5th, that the combs may be removed without injuring or irritating the bees; 6th, that the bees may have free access to the surplus honey arrangement; 7th, that the surplus honey may be removed without injuring or irritating the bees and be in a marketable condition; 8th, that the bees may be able to store every ounce of honey

they can collect; 9th, completely ventilated that the bees may not suffocate, and thousands of them hang on the outside of the hive for air on a hot day; 10th, that all the heat from the hive may enter the surplus honey boxes or chamber, to enable the bees to elaborate wax and make comb; 11th, that in case the bees are carrying in honey very rapidly, one set of boxes may be raised and another set placed under them; 12th, that there be no place in the hive where the miller moth can conceal itself; 13th, that there be no space between the top of the combs and bottom of the honey boxes except a single quarter of an inch ; 14th, that the bees may enter the surplus honey boxes from any part of the hive without creeping through a hole in the honey board; 15th, that all openings of the hive be guarded with a slide or button; 16th, that the boxes be covered with a light cap to exclude the chilly air at night as well as the excessive heat of the noonday sun, with a ventilation at each end to be opened on hot days and allow a current of air to pass over the honey boxes, permitting the excessive heat of the hive to escape in summer and in winter to carry off the moisture generated by the bees.

THE APIARY.

The next thing in importance is the location of the apiary. Select, if possible, a sheltered place, shaded somewhat by trees, with an eastern or southern aspect, where they can be easily seen or heard from the house during swarming season. As regards the distance between the stands it should be as great as circumstances will admit—two feet being the nearest they should be placed.

STANDS FOR HIVES

Is a subject to which too much attention cannot be given. Placing them several feet above the ground makes an unnecssary labor for the bees returning weary and heavy laden, with barely strength to reach the hive, they alight upon the ground, and if toward evening when cool and damp, often perish. Others have no projection from the entrance upon which to alight, but expect them to fly direct from the field into the hive, without making a pause.

PROCURING BEES TO STOCK AN APIARY.

It is presumed that a beginner desires to obtain a quantity of bees for an apiary. He has the location selected; has obtained, what appears to him, the best hive, and now it remains to procure occupants for those hives. He may purchase a colony that threw off a swarm the year before, as then he would be quite sure of getting a young queen; whereas, if the stock is of the current year, he would very probably have an old one, and in one or two years discover, to his great surprise, that his swarm was gradually decreasing in numbers, with a fair prospect of being utterly lost ; or, should there be a swarm thrown off accompanied by the old queen, as is usually the case, the new one would in a short time dwindle down to a mere handful of bees.

The best method in all cases, therefore, is to purchase the best stocks, those containing a large number of bees, a good suppy of honey, and that these bees are sufficient to cover almost the entire comb. Before purchasing, be sure that there is no diseased brood occupying the cells, and that no swarms have been lost from this cause. If no disease prevails in the hives, then old stocks are not objectionable, as, if they swarmed the previous season, they have the young queens, who are more prolific than the old ones, who always accompany the first swarms; and as long as they remain healthy are as prosperous as the young swarms.

SWARMING.

The swarming season in this latitude sometimes commences as early as the 15th of May, and at other times as late as the 1st of July. It usually commences about ten or twenty days after white clover comes into bloom. As a general rule, bees swarm for lack of room or want of thorough ventilation inside the hive.

METHOD OF HIVING BEES.

It makes but little difference how they are put into the hive, provided they are all made to enter. One essential thing is to have your hive in readiness. The hives should be stored in a cool place, as bees will enter a cool hive much quicker than one that has stood in the hot sun all day. Place upon the ground under the swarm cluster, the hive with a large piece of board just in front of it, upon which the bees can be poured. If they are to be hived in a box hive, one side should be raised one inch by placing under the front corner two sticks or blocks to hold it up from the bottom board. If in a moveable comb hive, raise the front, if on a movable bottom board, if not, open the entrance as wide as possible. If the swarm has clustered on a small branch or limb, it may be cut off if not detrimental to the tree, and brought down, and the bees shaken off in front of the hive. A knowledge that a new home is found is at once apparent. If any large number linger around the entrance, nearly closing it, you can expediate their progress by gently disturbing them with a small twig. If gentle means do not induce them to enter in a reasonable time and they seem obstinate, a little water sprinkled on them will facilitate operations. Too much water must not be used or they will become so wet that they will not move at all. If you do not wish to cut the limb they cluster on they may be shaken into a basket. In this event it is well to sprinkle the cluster with a pailful of cold water (ice water not objectionable), which will cause them to cluster closer, and hardly one will leave the basket. If you get nearly all the bees the first effort, shaking the limb will prevent the remainder from alighting, and will turn their attention to those who have found a home and are loudly calling them to come. There many other methods, under different circumstances, which our space does not permit us to explain, but which will probably suggest themselves to the bee-keeper.

ALL SHOULD BE MADE TO ENTER.

It is of the utmost importance that all should be made to enter the hive at once. A cluster outside may contain the queen unconscious of a home, and she might depart for the woods. Any small cluster around the hive should be brushed toward the entrance until they are all in. As soon as this is done it is highly important that they be set on the new stand for if the bees have been long on the tree they often send out scouts, and if the bees are left where they are hived often entice them to flee to the woods, otherwise they return to the limb, and being unable to find them return to the limb, and being unable to find them return to the parent stock with the few scattering bees left after hiving.

Shade is important, for if the bees do not like their home they will go away, and the heat works much mischief in various ways. The shade should not be too dense.

LOSS OF QUEEN.

Every bee-keeper should understand how to detect the loss of the queen. The following morning after a loss of this kind has occurred, and occasionally in the evening the bees may be seen running to and fro in wild consternation. Toward the middle of the day the confusion will be less marked, but the next morning will be again enacted and after the third or fourth day cease entirely, and apparently they become reconciled to their fate; they continue their labors although they do not manifest the energy or ability seen in a prosperous colony. Some authors say that they will not gather pollen when queenless; but such indications are not always reliable. It is highly necessary that the bee-keeper should glance at every swarm in the morning for a few days after swarming, so that, if any such loss should occur at this time it may be remedied at once by the introduction of a cell, or a fertile queen. In early spring, every swarm should be examined for her presence. In the box hive a little smoke may be blown in, and the bees driven back; if any brood can be discovered, it is a sure indication that she is there and fertile. In the movable comb hive, it is only necessary to raise out one of the combs in the center of the cluster, and the condition will be recognized at once. If a few imperfect bees are found on the bottom board or in front of the entrance in early morning, it shows that the colony has a fertile queen, and further examination is unnecessary.

WINTERING BEES.

More bees are lost by wintering than by all other troubles combined. To winter them successfully each stock should contain a sufficient amount of honey, bee-bread and bees. For out-door wintering each hive should contain from thirty to thirty-five pounds of honey; in-door five to ten pounds less. Each hive should have an upward ventilation—it is absolutely necessary.

ENEMIES OF BEES.

There is no enemy so much dreaded as the moth miller. The best preventative against the miller is to keep the stock strong and they will not permit her to deposit her eggs upon the comb.

DISEASES OF BEES.

Bees are subject to but few diseases which deserve especial notice. There appear to be but two distinct types to which they are subject in this country, viz : Dysentery and foul brood, the former of these generally makes its appearance in the spring, and may be known by the bees discharging their excrements over the comb, the interior of the hive, and especially around the entrance; the color instead of being yellow is of a dark muddy appearance and has a sickening offensive odor, which becomes intolerable. I have never had a case where I gave upward ventilation to the hives; the cause may be ascribed to the moisture in the hive condensing, and mixing with the honey in the cells. Colonies affected by dysentery are usually lost unless warm weather timely intervenes or they are removed to a warm room so that the water in the honey may be evaporated, which will generally terminate the trouble.

DISEASED OR FOUL BROOD.

In the destruction of the nymph or pupa from some derangement which causes it to undergo decomposition in the cell arises a disease known us Foul Brood. Some say it is caused by the brood being chilled in the cell; others that it is caused by the fermentation of bee-breed and honey. Mr. Rood, of Wayne, Mich., recommends that it be summarily dealt with, and the way to exterminate it entirely is to bury it, hive, bees and all, beyond any possibility of resurrection. I cannot see why by Mr. Quimby's method, in the hands of a skillful operator, it could not be treated without the liability of spreading and save the bees, honey, wax and hives; the method after Mr. Quimby's plan is driving out all the bees and putting them into new hives without any comb. If you wish to put them into hives with comb they should be kept in a box three or four days and fed just enough to keep them alive until they have consumed all the honey they took from the old hive. The old hive must be secured from robber bees, as any of the honey being carried into other stocks would prove their destruction as this disease is as contagious as measels or small-pox; the honey may be purified by adding a little water, boiling it for a few minutes and removing the scum. The comb must be either melted or buried to be beyond the reach of the bees; the hives may be renovated by using a powerful disinfectant, but I prefer to burn them. If a colony is affected in the fall, too late to built comb, and no comb on hand to put them in, the best disposition is to consign them to the brimstone pit, rather than to attempt to feed them through the winter to lose them in the spring.

FEEDING BEES.

Few things in bee-keeping are more important and require a more thorough knowledge than the feeding of bees. In attempting to winter too small colonies thousands often perish in winter and early spring. Colonies in the common box hive containing few combs and but little honey, should be fed in the latter part of Septembor or in October a sufficient amount to carry them safely through the winter. If feeding is neglected until winter it may then be done by placing the hive in a cellar or moderately warm room.

In the spring the prudent bee-keeper will no more neglect to feed his destitute colonies than to provide for his own table. There is one point certain in bee-keeping, that if a colony is stimulated carefully in the spring, they and their first swarm will have honey sufficient in the fall to winter them through unless a very unfavorable season occurs.

WATER NECESSARY.

Water is indispensable to bees when building comb or raising brood. Every prudent bee-keeper will see that his bees are supplied with water, by placing shallow wooden troughs filled with straws or floats, that they may drink without danger of drowning. A location near small bodies of water will be sufficient for a supply, but locations near large bodies are injurious.

ROBBING AMONG BEES.

It is instinctive in the nature of bees for one colony to rob another as soon as they can leave their hives in the spring. The stronger begins to assail the weaker. If these marauders who are prowling about in search of plunder attack a strong colony, they are usually glad to escape with their lives from its resolute defenders. The bee-keeper who neglects to feed his needy colonies, and to assist such as are weak or queenless, must expect to suffer heavy losses from robber bees. They are never inclined to rob when there is plenty of honey in the field. They would obtain their living honestly when they can, forcibly when they must. When an entrance has been made into a poorly garrisoned hive, and the condition ascertained, the robbers return to their homes and present themselves again with additional numbers. The weak colony, seeing their helpless condition, immediately join the marauders and assist in carrying their own stores to the robbers' hive, and themselves become a portion of its inmates. This is always the case with those who survive after being overpowered.

A very good method to determine when a swarm is being robbed, is to catch a bee that is coming out. If he looks plumper than those entering, if you pull the head and thorax from the body, the honey sack will appear either full or empty; if full, it is proof that the hive is being robbed, and means should at once be instituted to prevent it. A few small pieces of camphor gum thrown into the entrance, will often prevent the robbers from trying to get in, but when not effectual, close the opening by laying a little

block in front, so that but one or two bees can pass at a time. This will give them a better opportunity to defend themselves. If this is not sufficient, at night or early in the morning remove the hive to a cool, dark cellar, and ventilate so that the bees will not suffocate, for two or three days, when it may be returned to the stand. When robbing commences the entrance to all the hives should be contracted somewhat, and every means avoided which will tend to incite robbery, such as setting dishes of honey or other sweets where the bees can get at it, for when once they get a taste of it they are hard to control thereafter.

TRANSFERRING.

Transferring is changing a colony of bees and all the contents of a hive, from one to another. It should be done in the spring or summer, to be successful. Transferring may be done at any time of the day if pleasant. The best place to make the transfer is in some shaded locality or clean building. It will be necessary to have a few things in readiness, such as a box the size of the hive and a foot deep, for a driving box, an axe, a saw, a large knife, some goose quills, some twine, a dish of water to wash the honey from your hands, and a few dishes to put the honey and pieces of comb in; also some kind of bench should be arranged to lay the comb on.

The swarm to be treated should have smoke blown in among them to drive the bees among the comb, and also to subdue them. The hives should be removed to the place of transfer, placing another as near like it as possible on the old stand, that the returning bees may not join other hives and be killed. Invert the hive and place over it the driving box. Wrap a piece of cloth around where the two join, to prevent escape. Get two round sticks fifteen inches long and one inch in diameter, and commence beating the hive a few minutes, then stop about five minutes, to allow the bees to fill themselves with honey, then beat again for ten minutes, by which time nearly all will have left clustered in the box. The sheet or cloth is then taken off, spread upon the ground and the driving box placed upon it, the same side up as before and a small stick placed under one side to allow the air to enter. Loosen the comb from two sides of the hive, and with an axe split the sides off, that the comb may be taken out whole. Lay the comb upon the table, and place over it the frame. Cut the comb a trifle larger than the frame so it will fit closely, having it the same side up in the new hive that it was in the old. After the comb is fitted in it may be secured in its place by tying around the frame a piece of cotton twine. The bees will fasten it with wax in a day or two. Now hang the frame in the new hive. Do in the same manner until all good worker comb is secured, leaving out all drone comb. Now put in the bees, the same as hiving a natural swarm. Place upon the old stand, with the entrance contracted, and the ventilator left open during the heat of the day. In about two days the bees will have the comb fastened, when the strings can be cut and drawn out, and the boxes put on.

CONCLUSION.

In conclusion, I would urge all who keep bees, or are about to do so, to study the subject well. To the beginner I would say, give heed to two maxims: *See your bees often*, and have a knowledge at all times of their condition. Second: *Keep your stocks strong*. To the reader I would say, if you have a natural taste for the business, study the subject thoroughly, and engage in bee-keeping. It affords a generous return, strengthens our better nature, and leads us to admire the wisdom and goodness of Him who created all things.

QUESTION BOX.

The following questions were sent by the Secretary to hundreds of bee-keepers in all parts of the State, and the answers received follow the names of those sending them and correspond with these questions by number :

1. How many years have you kept bees?
2. Do you make bee-keeping a specialty? If not, what else do you follow?
3. How many colonies on an average have you kept each year?
4. Do you use *box* or *movable frame* hives?
5. If you use the latter, what are the dimensions of the frame and how many to the hive?
6. Do you work your bees for *comb* or *extracted* honey?
7. If for both, please give the proportion of each.
8. In working for comb honey, what sized sections do you use?
9. Do you use either wood or metal separators, and if so, which do you prefer?
10. What are your chief resources for honey?
11. How many pounds of comb honey have you produced from each colony, on an average spring count, each year during your experience in bee-keeping?
12. Ditto of extracted honey?
13. Do you sell your honey at home or in foreign markets?
14. What has been the average increase of the colonies run for comb honey?
15. Ditto of the colonies run for extracted honey?
16. What has been the average price you have received for comb honey?
17. Ditto for extracted honey?
18. Will bees store honey in sections with separators as readily as without?
19. Have you had any experience with Alsike clover, Alfalfa or any other plants specially cultivated, and do you consider them good honey plants?
20. Do bees in your locality work to any extent on red clover?
21. If so, what conditions are most favorable for getting honey from that plant in paying quantities?
22. What strain or strains of bees have you, and which is your preference?
23. Please give reasons for preference.

24. Do you winter your bees in the cellar or upon their summer stands?

25. In either instance, what per cent. of loss do you sustain?

26. In your locality what do you consider the proper time, on an average, for putting bee in the cellar?

27. Ditto for taking them out?

28. Do you know of any foul brood in you locality?

29 Have you ever suffered any loss from the poisonous spraying of fruit trees?

30. If so, what time was the spraying done?

31. In your home apiary, to get the greatest profit, averaging one year with another, what is the greatest number of colonies you think it advisable to keep?

32. How can exhibits of honey and apiarian appliances at County and State fairs be managed to advance the interests of bee-keeping?

33. Miscellaneous Remarks—Under this head you are kindly requested to make such suggestions as will tend to increase the interest in bee-keeping and promote the industry in Illinois.

J. C. WHEELER, PLANO, KENDALL COUNTY, ILL.

1 and 2. Eighteen years; a specialty for five years.

3. From one to three hundred.

4 and 5. Use the Heddon divisible and 8 simplicity.

6 and 7. Half for comb and half for extracted honey.

8. Sections 4¼x4¼x1⅝ inches.

9. Use both wood and tin separators, prefer wood.

10. Clover and linden.

11 and 12. Cannot tell exactly.

13. Sell at home and in neighboring cities.

14 and 15. I do not increase only as I want more colonies. Have doubled my number in five years.

16 and 17. Comb 14 cents, extracted 8 cents.

18. A little more honey without separators.

19. I consider alsike clover superior to red both for hay and for the honey.

20. Work on second crop red clover often.

21. A dry season that shortens the corolla of the clover.

22 and 23. Have spared no pains in testing Italian queens from different parts of the United States and of all shades of yellow. The golden Italian is superior with me, especially in her ability to work red clover.

24 and 25. Cellar. Not one per cent. from wintering, but of course more colonies become hopelessly queenless in winter then in summer owing to the fact that there are no eggs then from which to rear young queens when the old ones die.

26 and 27. Put in November 15 and set out April 1, owing to season. Put in when it freezes up and out when trees start.

28. Not near, but at Aurora, fifteen miles away, it is very bad.

29. Spraying fruit trees is not practiced to any extent here.

31. I keep about 60 colonies in each apiary.

32. The policy followed by some people to induce farmers, and every one else for that matter, to purchase hives, etc., and enter the bee business expecting large returns from small investments, has led to disappointment. Much money has been spent on bee-boxes that were afterwards inhabited by the festive hen. I can think of fifty farmers about here who at different times have had the fever. Such men I find are the worst enemies successful bee men have. They are naturally jealous of him who prospers at what they failed in, and then having the reputation of being a great bee-master back in the 40's any yarn about the freaks of the little worker by them is taken as gospel by the ignorant. These men are soured. They will not help to make laws for the protection of the pursuit and even stoop so low often as to accuse their brothers of dishonest practices in order to succeed. People must be educated by all possible means in the nature and habits of the bee, but new bee-keepers are not needed only to take the places of those who step out. It would be as logical for doctors and lawyers to send men to fairs to induce others to enter their professions as for us.

A. Y. BALDWIN, DEKALB, ILL.

1. About ten years.
2. Nearly so.
3. For three years 150 colonies.
4. Simplicity and dovetailed hives.
5. 17x8½ measure.
6. Comb exclusively.
8. 4¼x4¼x1 15-16.
9. Both. Prefer tin.
10. Basswood—white and sweet clover.
11. For last two years about 25 pounds.
13. Both.
14. About 25 per cent.
18. Have had no experience. Use separators.
19. Have had no experience with Alsike.
20. Not any to speak of.
22. Italian, Blacks and Hybrids. Prefer Italians.
23. More docile.
24. In the cellar.
25. From 2 to 4 per cent.
26. From November 15th to December 1st.
27. When soft maple blooms.
28. Not any.
30. Never done in this section.
31. Am not able to answer, but think about 100 is plenty.
33. There are several small apiarists in town and I can enumerate over two hundred colonies in this immediate vicinity. Think if the number were diminished some it would be for the interest of us all.

M. KLUMP, MULBERRY GROVE, BOND COUNTY, ILL.

1. Nine years.
2. No —— farming.
3. Eighteen.
4. Movable frame.
5. Simplicity.
9. Wood.
10. Bloom of all kinds.
13. At home.
16. 12½ cents.
18. Yes.
19. I think Alsike clover best.
20. No.
22. Mixed.
26. As soon as winter begins.
27. As soon as winter is broken.

GEO. POINDEXTER, KENNEY, DEWITT COUNTY, ILL.

1. Kept bees 30 years.
2. Made bee-keeping a specialty for 15 years.
3. Kept an average of 150 a year.
4. Use movable frames.
5. Hives—Langstroth—frames 17⅜x9½, 8 frames.
6. Work for comb honey.
7. Extract from two outside frames only of a good honey season.
8. Use 6x6 two lbs. and 4¼x4¼ one lb.
9. Don't use separators at all.
10. Honey resources are white and red clover—basswood and heartsease.
11. About thirty pounds.
12. About five pounds.
13. Sell about one fourth of my honey at home.
14. About one third—but I return them to the hive.
18. No experience with separators, think they will store better without.
19. Alsike is first class for bees for the first two years then dies out.
20. Yes, when the prods are short made by dry weather with rain about the time they burst open.
22. Keep the Italian full stock and raise from best marked or that produce the most honey. Prefer the Italians decidedly, they don't put all the honey into the surplus cases and give you the trouble of feeding it back to keep them from starving their young as the blacks do.
24. In cellar, except when they are on honey dew.
25. Loss in cellar 10 per cent., on summer stand 50 per cent.
26. Before the combs become frosted, the later the better.
27. When the buzzards appear, if no signs of bee cholera, for they never come to return to the south.
28. Have never seen any to know it.
31. A good honey season in my locality will give honey to 150 stands; in a poor season to scarcely 50.
32. By getting the associations to offer good premiums so that it will stimulate any bee-keeper to look out for his pocket-book.
33. I have interviewed all the farmers in this vicinity in regard to alfalfa but get no satisfaction from them worth anything to bee-keepers. I think sweet or bee clover is the best plant to sow along the branches or creeks where the banks will grow it without anyone cutting it and stock cannot molest it.

S. F. AND I. TREGO, BREEDERS OF GOLDEN ITALIAN QUEENS, SWEDONIA, ILL.

1. Six.

2. Yes.

3. Average only 10, on account of few at beginning while we now have 56.

4. Movable frame.

5. Langstroth, 8 and 10.

6. Bolb—but mostly for Queens.

8. 4¼x4¼x1⅞.

9. Have only used tin.

10. White clover, heartsease, basswood and red clover in the order named.

11. In 1886, 100 pounds per colony; in 1887, 3 pounds; in 1888, 15 pounds; in 1889, none; in 1890, 102 pounds; 1891 run for queens exclusively.

12. Not worth mentioning as we fed most of it back.

13. Both, when we have any worth while.

14. Do not know as we increase a good deal by dividing.

16. 12 cents.

17. 10 cents.

19. Not much experience, have scattered some motherwort. Bees seem almost crazy over it every year for three months. Not enough here to make any showing in the hives.

20. Yes the Italians do, especially the Golden.

21. A dry season seems best.

22. Five branded Italians (Heams, Dunalls and Doolittles) they are superior to all others here.

23. Working qualities, self-defenders against robbers, gentle and beautiful.

24. Summer stands—chaff hives.

25. About 5 per cent. when in fair condition, but in the fall of 1890 we had scarcely a good colony. Loss in winter 50 per cent., the result of running for queens under "high pressure."

28. No.

29. No, there is no spraying done here, but should be.

31. In a fair season 100 or more, and in a poor season there does not seem to be enough for a dozen colonies. The year we got 102 pounds per colony there were over 200 colonies within two miles of us.

32. Every individual bee-keeper "drum" the fair authorities for fair sized premiums. Good premiums will bring good exhibits and the interests will advance themselves. Let the Ill. S. B. K. A. do some of the "drumming."

E. T. FLANAGAN, BELLEVILLE, ILL.

1. Fifteen.

2. No. Would like to do so but it is too uncertain. Supplies, bees and small fruit.

3. Have had as high as 1,000, have 350 now. Average per year 250.

4. Movable.

5. Regular Langstroth frame, 8 and 10.

6. Both.

7. Three-fourths extracted, one-fourth comb.

8. 4¼x4¼x1½ and 7 to the foot.

9. Wood, and prefer the same. Don't use any with the 1½ inch section.

10. White clover when it yields. For fall flowers smart-weed and Spanish needle. All the other kinds do not amount to much.

11. Cannot say now, have kept no record.

12. Ditto.

13. Both.

14. No record.

15. No record.

16. No record.

17. No record.

18. Yes, in my experience.

19. Have tried alsike clover and found it a No. 1 for honey, and that it pays best for all plants planted for honey, as the hay and seed are valuable.

20. Yes in all dry years, on first crop, and always on second crop, unless very wet season.

21. Dry weather and second crop for seed.

22. Italian and golden carniolan.

23. Gather more honey, and gather when black bees will starve.

24. Summer stands.

25. Not 5 per cent. unless they starve.

26. Don't put them in.

27. Don't take them out.

28. No.

29. Not to my knowledge.

31. Not more that 75 or 80.

32. By the bee-keepers taking more interest in them, and by the managers of the fairs offering larger premiums, and giving better facility for displaying apiarian implements, honey bees, etc.

CHAS. DADANT AND SON, HAMILTON, ILL.

1. Twenty-nine years in this country.
2. Yes, including our manufucture of comb foundation and the bee supply business.
3. We began with two colonies and increased their number until we have had fourteen years about four hundred colonies.
4. Movable (suspended) frames exclusively.
5. Abut 11x18, 10 combs and a division board.
6. Extracted honey.
10. Clover.
12. About 50 pounds.
13. Mostly at home.
15. As our bees don't swarm much naturally their increase balances our small winter loss.
17. 8 cents.
19. We consider alsike clover a good honey plant. We did not succeed in a small experiment with alfalfa.
20. They work on it some years but we don't think it is worth mentioning.
22. Italian.
23. Pure Italian bees bring better results and are more gentle to handle.
24. Mostly on their summer stands.
25. About two to five per cent.
26. The last of November, after a good flight.
27. Some time in March.
26. We do not know of any foul brood anywhere.
29. No.
31. About 100.
32. Such a question cannot be answered in a few words, but suffice to say that the more implements of bee culture, and the more honey, the people see at the fairs, the more they will be incited to buy.

J. M. BURTCH, MORRISON, ILL.

1. Ten years.
2. No. Elevator, coal, flour, feed, etc.
3. Began with 1, now have 60.
4. Movable frame.
5. Langstroth, 8 frames.
6. For comb honey.
8. 4¼x4¼x1⅞ and 7 to the foot.
9. Metal. Never used wood.
10. White clover, basswood and heartsease.

11. No data to make estimate.
13. Ship most of it to Chicago and St. Louis.
14. No record.
16. 12th to 16th.
18. Have never tested the matter, but as far as my general observation goes there is but very little if any difference.
19. None whatever.
20. No.
22. Italian, Hybrids and Black. Italian.
23. Gentler. Look better.
24. Cellar.
25. Say 2 per cent.
26. Middle of November.
27. Say April 1st. Varies with the season.
28 Know it has been here.
29. Not that I know of.
31. I live in the city. Two hundred for an ordinary locality.
32. By offering big premiums.
33. Don't need any *promoting*. Water finds its level so will the industry of bee-keeping.

FRANK BLECKA, ELGIN, KANE COUNTY, ILL.

1. Seven years.
2. No. I have a trade.
3. Eight.
1. Movable frames.
5 16¾x9⅛—9 frames to the hive.
6. For comb honey only.
8. 4¼x4¼x1⅞.
9. Use wood separators and prefer them.
10. White and sweet clover and basswood.
11. In a good honey season 40 pounds.
13. Home market.
14. 100 per cent.
16. 20 cents to 25 cents per pound.
18. Cannot say. I use separators.
19. No.
20. No.
22. Black bees—have no particular peference.
24. Upon summer stands
25. About 25 per cent.
26. About the 20th of November.
27. About the 20th of March.
28. No.
29. No.
31. 50 colonies.
32. I do not know.

D. A. CADWALLADER, PRAIRIE DUROCHER, RANDOLPH COUNTY, ILL.

1. Three.
2. No. Gardening, fire insurance, justice of the peace and notary public.
3. One first year, four second year and nine I have now.
4. Seven colonies in frame and two in box hives.
5. 17⅝x9⅛ outside measure, 8 frames to the hive.
6. Comb.
7. No extracted produced.
8. 4¼x4¼x1⅞.
9. Wood. No experience with metal. I like the wood.
10. White clover, Figwort. Heartsease, Goldenrod and the Asters, in Autumn. Not much Basswood here.
11. Twenty-five pounds.
12. None.
13. At home.
15. 200 per cent.
15. None.
16. Fifteen cents per pound.
18. I don't know.
19. No.
20. No; only in fall.
21. Don't know.
22. The common, have had no experience with any other bees.
24. On summer stands.
25. One fourteenth per cent.
26. Cellars are not used here for bees.
28. No.
29. No.
30. No spraying done here at any time on trees.
31. Cannot tell.
32. Cannot answer at this time.
33. All who love to keep bees should be united for mutual benefit. Induce the cultivation of alsike and alfalfa clover by all means, to see if they are good honey plants, and young persons—bee-keepers—should commence to plant basswood trees, and finally all bee-keepers should enroll their names in the State Association and get ready for the World's Fair at Chicago.

A. J. NEWMAN, GARDEN PRAIRIE, BOONE COUNTY, ILL.

1. Seven.
2. No. Farming; winter dairy.
4. Movable frames.
5. Eight Langstroth until June, then contract to 5 or 6.
6. Comb, but always have some extracted.
7. Generally ⅞ comb, ⅛ extracted.
8. 4x4x1⅞.
9. Yes, wood 1-20 of an inch thick.
10. White clover, alsike, basswood, red clover, fall flowers, amount in same order named.
11. About 65 pounds, best year 104 pounds, poorest year ½ pound per colony.
12. About 5 pounds per colony.
13. Both at home and Chicago.
14. About 75 per cent.
16. 13 cents.
17. 10 cents.
18. Yes.
19. Yes, with alsike cultivated for hay, consider it better producer than white clover.
20. Yes, about one year in four.
21. Very dry before blossoms warm and moist "not wet" during bloom.
22. Mixed German and Italian.
23. Best workers, best comb builders, quickest to commence in section.
24 In cellar.
25. 35 per cent. and loose as many more in July and August by getting queenless.
26. From 16th to 24th of October.
27. From 27th of March to 8th of April.
28. No.
29. No.
31. Seventy-five.
32. Honestly.
33. Why not organize a board of trade so we can sell our honey the same as butter, pork, beef and grain, now we peddle it out and when we get through we hardly know that we have had any money.

DR. C. C. MILLER, MARENGO, M'HENRY COUNTY, ILL.

1. Thirty-one years.
2. Yes.
3. Perhaps 75, running from 1 to more than 400.
4. Movable frame.
5. Eight-frame 18x19 inches, now working into Simplicity.
6. Comb.
7 and 8. 4¼x4¼x1⅞.
9. Wood.
10. Clover and a little linden.
11. Perhaps 25.
13. Foreign.
14. Perhaps 50 per cent.
16. About 15 cents.
18. About.
19. Nothing conclusively satisfactory.
20. No.
22. Italians.
23. Better natured.
24. Cellar.
25. 5 to 8 per cent.
26. November 1st.
27. Last of March to last of April.
28. No.
29. Not that I know of.
31. 100.
32. I really don't know.

32. Get a good foul brood law, and a law against spraying fruit blossoms, also some plan to prevent my crowding in on your territory.

R. MILLER, COMPTON, LEE COUNTY, ILL.

1. Have kept bees since 1865.
2. Farm a little.
3. From 25 to 195.
4. Movable frame.
5. Eight frame Langstroth, common size.
6. For both.
7. Half and half.
8. 4¼x4¼.
9. Neither one.
10. White and sweet clover.
11. Have never kept a record.
13. Mostly at home.
14. About one-third.
16. 10 cents per pound lately.
17. 10 cents per pound.

18. Never used them.
19. Alsike and sweet clover are good.
20. No. Never saw them on it.
22. All three kinds. Italian is best.
23. More hardy; best for honey and to keep out moths.
24. In cellar for twenty years past.
25. About 5 per cent.
26. I have put them in in October and up to the 15th or 20th of November.
27. About the 15th to the 20th of March.
28. Have never known of any in this county.
29. No, there has never been any spraying in this vicinity.
31. Not over 100.
32. Could not say, as I never exhibited but once.

CHAS. BECKER, PLEASANT PLAINS.

1. Seven years.
2. No. Harness maker and insurance agent.
3. Fifty.
4. Movable frame hives.
5. 10 to the hive, Langstroth.
6. Both.
7. ½ of each about.
8. 4 1-4x4 1-4.
9. None.
10. White clover.
11. About 30 pounds.
12. 70 pounds.
13. In foreign market.
14. Don't know.
15. Less than comb.
17. 12 cents.
18. 8⅓ cents.
19. No.
20. No.
21. None.
22. Italians, sybrians and blacks. Italians.
23. They are easier handled and better hustlers.
24. Both.
25. In cellar about 2 per cent., out doors 10 per cent.
26. Latter part of November.
27. Latter part of March.
28. No.
29. No.
31. 50 colonies.
32. Don't know.

HENRY WILLSON, CLINTON, ILL.

1. Fourteen years.
3. Forty to seventy.
4. Movable frame hives.
5. Langstroth, mostly 9⅛x17½, have some 11¼ square but don't like them.
6. Generally comb honey.
8. 4¼x4¼, different widths.
9. I use and prefer wood for separators.
10. White clover, heartsease or smart weed, milk weed and many smaller sources.
11. All the way from 10 pounds to 80 pounds.
13. Generally in the home market.
14. The colonies would more than double if I would let them.
16. About 12½ cents.
17. 18 cents.
18. They will for me, I think.
19. No experience.
20. Yes, they work hard, but don't seem to accomplish much.
22. I prefer the Italian.
23. They gather more honey in bad seasons when honey is scarce and commands a good price. Winter better. Comb honey is not damaged by moth.
24. Part of them each way.
25. Always better in the cellar.
26. 1st to 20th of November generally.
27. 15th of March to 10th of April according to the weather.
28. None in this county that I know of.
29. No.
30. Spraying is not practiced here much.
31. Perhaps 100 stands; this is guess work, however.
33. My bees are wintering on honey dew and are doing rather poorly at present. I sold several hundred pounds of black honey dew at 5 cents a pound the past season. Most people like it at that price.

WM. J. FINCH, JR., CHESTERFIELD, ILL.

1. 17 years.
2. No. I farm also.
3. About 25.
4. Frame hives.
5. Langstroth, simplicity, 10 frames.
6. Both.
7. About half of each.
8. 4 1-4x4 1-4, 7 to the foot.
9. No.
10. White and red clover, also heartsease.
11. About 15 pounds.
12. About 25 pounds.
13. All at home.
14. About 250 per cent.
15. About 75 per cent.
16. 12½ cents.
17. 8 cents.
18. No.
19. No.
20. Yes.
21. Italians or Hybrids and a good season.
22. Italians, hybrids and blacks. Prefer Italians.
23. Beauty, docility, working qualities, and can be shaken off combs easily.
24. In cellar.
25. Usually 3 per cent; this winter 50 per cent.
26. About Nov. 15th.
27. April 1st.
28. No.
29. No.
30. No.
31. Localities differ. With me I think about 75 colonies sufficient.
32. By making them more instructive, and distributing interesting pamphlets, free from advertisements In short, by making the exhibit as if no one knew what a bee was, or had ever seen one.
33. Only specialists should produce comb honey. Simplicity or Langstroth hives are too small. I am going to make some hives larger than Dadant's.

L. T. AXTELL, ROSEVILLE, ILL.

1. 20 years, first four years only increased swarms; got no surplus.
2. No. Farming and pure bred poultry.
3. 16 years, 200 colonies.
4. The Quinby movable frame.
5. 11½x19½ outside measure, 7 frames.
6. Comb mostly.
7. 94 per cent. comb and 6 per cent. extracted.
8. 4 1-4x4 1-4.
9. Neither.
10. White clover for spring and heartsease for fall.
11. About 50 pounds.
12. About 3 pounds.
13. Mostly in Chicago.
14. We keep down increase by uniting back. Good honey years, one in five.
15. Not any.
16. About 13 cents.
17. 10 cents.
18. No.
19. Alsike is good.
20. Think not.
21. Sometimes from second growth.
22. First, Italians; second, Italians; then blacks.
23. Better honey gatherers in times of daouth and easier to handle.
24. Both.
25. 10 per cent.
26. About 12th of November.
27. April 1st.
28. No.
29. Mrs. Axtell thinks so; Mr. Axtell says no.
30. While in blossom.
31. 125.
33. By giving good premiums.
33. Good years for honey more than all else and stick-to-it-iveness, then a host of bee-keepers spring up, to quit it again the next poor year. Keep the bees in good condition at all times.

S. N. BLACK, CLAYTON, ILL.

1. Forty years.
2. No. Farming mainly.
3. 20 colonies.
4. Movable frame.
5. Langstroth. Nine frames to hive.
6. Comb honey.
8. 5¾x4¼x1½.
9. Do not use separators.
10. White clover, smartweed, or heartsease, buckwheat and Spanish needle.
11. Probably forty.
13. Sell in home market.
16. About 14 cents per lb.
19. With alsike; it is a good honey plant yielding honey fully equal to white clover. Sown with timothy makes choice hay.
20. Yes. Red clover is not reliable at all. If the season is dry till about the beginning of bloom, the weather then being showery and not too hot it sometimes yields profusely.
22. Hybrids from black queens.
23. It is next to impossible to keep pure Italians. The hybrids from black mothers are more quiet and gentle than hybrids from Italian mothers.
24. Generally in the cellar.
25. Generally 5 per cent.; sometimes from neglect and extraordinary seasons the loss is much greater.
26. December 1st, or about the first severe cold weather
27. March 15th, or as late as they can be kept quiet in cellar.
28. No.
29. No.
31. 50 colonies.
32. By making large displays of honey to encourage the idea that honey is an article for consumption for food and not simply an article of luxury. There is a feeling with a great number of people that honey is only a luxury and one that can as well as not be dispensed with; while the fact is that honey is a strong diet, as nutircious as meat. Any way of correcting this opinion will tend to increase the consumption of honey, and I believe that the exhibition of honey in immense quantities will do more than anything I know of.

R. T. DAVIS, DECATUR, ILL.

1. About 2½ years.
2. I do not. Am a machinist.
3. Have only 5; lost 4 last year.
4. I use movable frames.
5. Top bar 17½ inches; 10 to hive.
6. Comb exclusively.
7. Seasons have been too poor to state.
8. I use 4 1-4x4 1-4.
9. Wood. Have not used any other.
10. White clover and smart weed.
11. My experience is limited.
12. Never extracted any.
13. At home.
14. Quite limited so far.
15. I do not extract.
16. 15 cents per pound.
17. Blank.
18. Have no expierience.
19. I have none as yet.
20. I think not.
21. Am not prepared to say.
22. Italians—same.
23. Business end not so vigorous.
24. On the summer stands.
25. Loss quite small so far.
26. Soon after a freeze.
27. Could not say.
28. Very little.
29. I have not.
30. No spraying done here.
31. Not exceeding 50 to 75.
32. Get very interested in it.
33. In submitting a few thoughts on this very interesting subject (that is, bee culture) allow me a little latitude and I will proceed to make such suggestions as appear necessary on this occasion. First, let me advise every bee keeper in the great State of Illinois to subscribe for the American Bee Journal. Second, and to induce as many more as he can to do likewise. Then having accomplished one very commendable act, proceed to inaugurate another by organizing county associations and at the same time select live men to fill the offices who can best promote the walllare of said associations. Third, my advice to every bee-keeper would be to join the Illinois Bee-Keepers Association, provided he can raise the dollar. The next thing in order would be to make it a point to attend its regular meetings

at the capital, where the voice of that eminent veteran, Dr. C. C. Miller could be heard to speak perhaps full as well as he writes, and Mrs. L. Harrison whose terse, witty sayings give a charm to her productions, and many others might be mentioned. In conclusion, Mr. Secretary, let me say that at the appointed time, I shall try to go up — not to Jerusalem, but — to the Capital City where I may become familiar with your many able men and women who are in the front ranks of your society.

CHAS. SCHLESSLER, NAPERVILLE, ILL.

1. Have kept bees since 1888 on a small scale.
2. No. Fruit growing.
3. Began three years ago with 28 colonies, now have 48.
4. Use the ten frame Langstroth.
5. 17½x9 1-4.
6. For both.
7. About half of each.
8. 4 1-4x4 1-4.
9. No.
10. White clover and basswood.
11. 25 pounds.
12. 50 pounds.
13. Home market.
14. 50 per cent.
15. 35 per cent.
16. 13 cents.
17. 9 cents.
18. I do not think so.
20. No, not that I have seen.
22. Mostly hyprids, and give good satisfaction.
23. Have had Italians, blacks and hybrids, and found that some of my best colonies were among the hybrids.
24. On summer stands.
25. From two to five per cent.
28. None that I know of.
29. Not much spraying done around here. I spray after the blossoms have fallen.
31. I intend to increase my apiary to 75 colonies.
33. The principal objection I find to the business here is to obtain a reasonable price for honey. Farmers will come to town in the fall and stock the stores with comb honey for from 8 to 10 cents per pound, and it is hard to convince them otherwise.

GOE. F. ROBBINS, MECHANICSBURG, ILL.

1. Ten years.

2. I regard bee-keeping as my specialty, although I till a little garden spot of twenty-five acres besides. Would make a poor living if I did not do the latter.

3. About 50 colonies, spring count.

4. Movable frames.

5. 17⅜x9 to 9⅛, and 10 frames. I am now working into the sectional broad chamber hive.

6. Both.

7. About two pounds comb honey, to one extracted.

8. The 5 1-4x4 1-4. I used 4 1-4x6 1-4 and 4 1-2x5 for some years, but I have abandoned them.

9. Both wood and metal. There is not much choice between them but if any, I prefer metal.

10. Nearly all my surplus is gathered from white clover. For red clover see 20 below. Some seasons I get a little from heartsease and Spanish needle and usually the larger part of the winter stores are obtained from those two plants.

11. 1882, 60; 1883, 36½; 1884, 11½; 1885, 14; 1886, 16; 1887, 14½; 1888, 3½; 1889, 27; 1890, 32; 1891, 2.

12. 1882, 9; 1883, 25; 1884, 5½; 1885, 12; 1886, 31; 1887, 9; 1888, 4⅓; 1889, 20; 1890, 14; 1891, 11, of honey dew.

13. At home chiefly, counting Springeeld—15 miles away—in my home market, but I have occasionally shipped to more distant points.

14. and 15. Such is my method of managment that I cannot answer these questions separately and not very definitely at all. I never have an increase of over 80 per cent., and that only temporarily, as I practice unining all the year. Since 1883 I have never gone into winter with more than 10 more colonies than I had in the spring until this last year, when my increase was 12 or 13.

16. About 13 cents. The last four years would bring it nearer 15 cents.

17. About 10 cents.

18. Yes.

19. None with any but alsike, and not enough with that to speak very positively. Should think by the way I have seen bees work on what little we have had around here that it must yield considerable honey, but it does not appear to reseed very well in this locality.

20. My Italians and hybrids worked quite briskly on red clover for a few days last summers, and I have seen them on it other years.

21. I think judicious pasturing would have this effect. Cattle and hogs, not horses and sheep, might be turned onto it after it has got a good start in the spring in sufficient numbers to keep it blossoming for three months. In this case the flower tubes would be shorter and furnish the bees with much

better chance to get at the nectar. A hundred acres treated thus I shonld think would yield honey in appreciable quantities. I have not seen this thoroughly tested, but I have seen indications that it might be as I have said.

22. All the way from blacks to fine-branded Italians, tnink I rather prefer hybrids.

23. Hybrids possess about all the good points of Italians except quietness. They are better breeders, take the season through. When Italians are stuffing the brood frames with the honey that should go above, hybrids have their combs filled with brood to the top bar—indeed in this respect they surpass either race in their purity—and they incline to breed later in the fall. They, of course, go into sections more readily, and cap their honey, as a rule, somewhat whiter than Italians. They are more excitable, but in the hands of a bee master, one who has acquired the mystic, indescribable art of handling bees, they are not so black as they are painted. Some specimens to be sure are so hot headed that they will charge out in a stream if you stir a bla 'e of grass near their hive, but they can be easily fixed, just catch the queen and squeeze her.

24. On summer stands.

25. My actual winter loss is perhaps 3 per cent , but by uniting queenless colonies and those with failing queens or otherwise weak, in the apiary, my loss foots up some 8 or 10 per cent.

28. No.

29 No.

31. Do not know. I have not yet reached the limit of my field, and there are from 60 to 70 stands within two mil.s of me.

32. I suppose the first point is to exhibit. It devolves upon us bee-keepers to see that our industry is properly represented at the fairs. We must begin with the boards of management, work up premium lists and get suitable accommodations; then second the efforts of the managers. We must show them that we mean business. There are various ways in which this can be done. I think we should, in some cases, offer premiums ourselves—on honey extractors, perhaps, or pickles made with honey vinegar. Work up special premiums, but most all of exhibit. And while we are at it let us make our exhibitions educating to the public. Let us keep in mind him whom we desire to make a consumer. Show him what we are doing and what we have got, make his mouth water for honey.

33. We do not want to strive very hard to draw more into the business, neither do we need to educate every farmer as amateur bee-keepers. The quicker most of them fizzle out the better for all concerned, and if you see any headed that way do not stop them; but if you find a man who is disposed to take an intelligent, practical interest in bee culture, one who wants to become your competitor in the market, that is the very man you want to help. Get him into our conventions, get him to read books and journals, furnish

him this report, talk with him, teach him all you can. He will do you more harm by throwing inferior honey on the market at ruinous prices than he will by seeking to take your trade from you with a first class article and a view to actual profit. But to promote the Industry we want chiefly to promote the consumption of honey. As an aid to this we should pay more attention to quality. That is the greatest factor of all in promoting the honey trade. Quality is essential, and again I say quality. If I were a voice, a persuavise voice, that could travel this whole country o'er I'd fly around among the bee-keepers and sing with all my might, quality, quality is the "open sesame" to the appetite of the consumers. We fill numberless volumes with teachings relative to the management of an apiary and the production of honey, and leave the rest too imperfectly treated, when, in fact, the problem of successful honey production is only a little over half solved at that point. We must put up our honey in such a style as to make the beholder hungry, and have the quality such that the last bite will taste like more. These are matters entirely within reach of the producer if he will only inform himself how it must be done and take care to do it. Then there is one more thing. We must get our wares before the people. Much more can be done in that line than has been done. A lady acquaintance from Chicago told me last summer that while the grocers there generally kept strained honey but few of them handled that in the comb. Brethren that ought not to be so. There is some remedy for such a state of things. I suggest that we find out about it.

J. S. SEELY, OSWEGO, ILL.

1. Six or eight.
2. No. Farming.
3. Forty.
4. Langstroth.
5. Ten.
6. Comb principally,
8. 4¼x4¼.
9. No.
10. White clover and basswood.
11. Forty.
13. Home and Chicago.
14. One.
16. 12½ cents.
17. 10 cents.
18. Don't know.
19. No.
20. No.
22. Mixed. Italians.
24. Sheds and boxes.
25. 5 per cent.
28. No.
29. No.
31. Thirty to forty.

EZRA BAER, DIXON, LEE COUNTY, ILL.

1. Fourteen.
2. No. Farming and apiary supplies.
3. About 100.
4. Movable frame.
5. 10 frames 9⅛x17⅝.
6. Both.
7. 90 per cent. comb and 10 per cent. extracted.
8. 4¼x4¼x2.
9. Metal.
10. Clover—basswood and heartsease.
11. 75 pounds.
12. 120 pounds.
13 5 per cent. at home and 95 per cent. shipped.
14. 40 per cent.
15. 20 per cent.
16. 14 cents.
17. 9 cents.
18. No.
19. Have tried Alsike and pronounce it O. K.
20. Yes.
21. A rank growth, moist and warm.
22. Italians and Hybrids—Italian.
24. On summer stands.
25. 10 per cent.
26. December 1st.
27: April 15th to May 1st.
28. No.
29. No
31. 125.
33. Do not try to induce parties engage in bee-keeping—too many now.

C. SCHRIER, PEOTONE, ILL.

1. Twenty-four years.
2. No. Farming,
3. 50 colonies.
4. L. frame hive.
5. 9x18, 10 frames per hive.
6. Comb honey.
8. 4¼x4½.
9. No seperator.
10 White, alsike and sweet clover; buckwheat.
11 140 pounds last year, 10 pounds lowest.
13. Home market.
14. One swarm for four colonies.
16. 15 cents.
18. No trouble without separators.
19. 40 acres of alsike clover mixed with timothy. (Three acres alfalfa. No honey.)
20. No.
22. Italians or brown Germans.
23 Brown Germans make more honey and swarm less.
24. In cellar.
25. No loss in cellar. Ten per cent. in summer stands.
26. November 20th.
27. March 15th.
28. No.
29 No.
30. No.
31. Fifty.
32. I don't "bum" around the fairs with honey, I have a good market at home.

MARK DAVIS, LISLE, DUPAGE COUNTY, ILL.

1. About 16 years.
2. Do not. Farming.
3. About 12 colonies.
4. Movable frame hives.
5. 12 inches long, 10 inches deep and 13 frames.
6. Extracted honey.
9. Have used metal; bees do not work as well.
10. White clover, sweet clover, basswood and wild flowers,
12. About 75 pounds.
13. In villages near home.

15. I aim to double them.
17. 15 cents.
19. No experience.
20. Do not; only a little in dry seasons.
21. Dry weather and small clover heads with short corollas.
22. Hydrids. Prefer Italians.
23. More docile and keep out moths.
24. Formerly on summer stands, late years in cellar.
25. On summer stands about 90 per cent., in cellar not over 1 per cent.
26. About December 1st, or when cold weather sets in.
27. About April 1st, or when warm enough.
28. Do not.
29. Have not.
31. About 60.
32. Do not know.

FRED DETHLOFF, RAMSOM, ILL.

1. Eight years.
2. No. Farm and keep poultry.
3. Started with four, now have twenty-eight—sold one last fall.
4. Movable frame.
5. 10x17, 8 to the hive.
6. Comb.
8. 4 1-4x4 1-4.
9. Use tin.
10. Fruit trees, clover and fall flowers.
11. Thirty to fifty pounds.
13. At home.
14. One to the hive, but the last two years only three in all.
16. From 12½ to 15 cents.
18. They will for me if I use starters.
19. Have raised it (alsike) for three years, and it is good for the bees. If I had not had it I would have had no honey.
20. No.
22. Black, with some hybrids,. Had Italians but lost them all.
24. On summer stands, but move them together and pack with leaves; boards on top and sides to keep dry.
25. Sometimes lose one or two.
28. No.
29. No.
32. Cannot tell as I have never exhibited.

JAS. A. STONE, BRADFORDTON, SANGAMON CCUNTY, ILL.

1. About twenty-five years.

2. No. Farming, fruit growing and Oxford Down Sheep breeding.

3. Began with about a dozen now have 100.

4. Use box until about eight years ago, when I transferred to the Improved Langstroth Simplicity.

5. 9x17¼, 10 frames to the hive.

6. Have worked for comb up to this time. Have arranged now to work for both.

8. 4¼x4¼x1⅞ and 2 inches.

9. Metal and as I have only tried metal cannot say which is preferable.

10. White clover, (alsike coming into favor) heartsease and Spanish needle.

11. Not over twenty, for the reason that when I began to Italianize my bees I worked for increase of colonies by dividing, giving the new made swarm a queen cell (obtained by the process named "by the Sec" in bee-keeping department of this report) thus assuring good strong swarms, but not as much surplus honey.

13. Home, Springfield.

14 Forty per cent.

16. 12½ cents.

18. Have reason to doubt it.

19. Some with alsike, and find it good for honey and extra good for sheep and cattle pasture, and far superior to red clover for hay for sheep and cattle, and sown with timothy it cures when cut about as quick as the timothy.

20. I think they do, on the first as well as the second growth. For I have noticed since I have had Italians that the first crop of red clover seems to be well filled with seed.

22. Italian. Prefer Italian.

23. Better to handle, proof against moth, hardier and work earlier and later.

24. In cellar, But on account of what has been said regarding bees wintering on honey dew, am this winter trying it on summer stands.

25. No loss. except from loss of queens or from starvation of light swarms, and I seldom have light swarms, for I compel them to get pretty good stores in the brood chamber before putting on surplus cases.

26. First to fifteenth of December.

27. When box elder trees bloom, for there is no use in their being out till they can go to work.

28. No.

29. Not that I know of.

31. One hundred.

32. Interest the people by yourself being interested.

33. Some have said under this head and under 32 that there were already too many bee-keepers. We do not all think alike. Do not think

there can be too many, as long as the territory is not fully occupied. We have had the least trouble to get rid of our largest crop simply because the price was low, then there would be good customers all through the country as well as in cities, and everybody ate honey. But let it get to 15 or 20 cents and see how quickly the appetite for honey is gone. We are of opinion that our honey would find a market at 10 cents per pound for comb honey, no matter how large the supply, if we would circulate an educator like the Honey Almanac, published by Thos. G. Newman, of the American Bee Journal, Chicago. If the people were aware of the health-giving properties of honey there could not be more produced than could be profitably disposed of. If each individual bee-keeper would take it upon himself to thus enlighten his neighbor the demand for honey would thus arise so suddenly that nearly all the honey produced would find a home market. The following from a recent date of the Chicago Daily News shows something of the value of honey as an article of diet and remedial agent: "But few people are cognizant of the benefits to be derived from a moderate use of honey as food. Saccharine matter as a rule is apt to affect the system injuriously, but if taken in the form of honey, it at once becomes a valuable food and medicine. Instead of having it given to us in combination with bulk foods, as in the cane and beet, it is in the case of honey mingled with fruit juices derived from flowers highly charged with medicinal properties. Honey taken as food becomes a powerful medicine to the sugar-fed and half diseased, and many people must begin on small quantities and acquire an appetite for it. Foul air, improper ventilation, coal gas and sudden changes of temperature, and exposure of lungs and throats to sudden chill are a source of no end to throat and bronchial troubles. A free, regular and constant use of honey is probably the best medicine for throat troubles known, and its regular use is largely corrective."

J. J. FERRILL, COBDEN, UNION COUNTY, ILL.

1. About fifteen years.
2. Do not. Am a farmer and fruit grower.
3. Found a colony of bees in the woods about fifteen years ago; they have increased till I now have twenty-four stands.
4. Movable frames.
5. 9½x12 inside measure, 11 to the hive.
6. Comb honey.
8. One pound sections.
9. Wood separators.
10. Red elm, apple, white clover, raspberry and blackberry bloom.
11. About 35 pounds.
13. At home.
16. Fifteen cents.
20. I don't think they do.
22. The Italian.
24. On summer stands.
25. I don't think I ever lost any except by starvation.
28. I do not.
29. Have not.

S. H. HERRICK, PRESIDENT NORTHERN ILL. BEE-KEEPERS' ASSOCIATION, ROCKFORD, ILL.

1. Six.
2. No. I follow dairy farming.
3. About thirty.
4. Movable frame hives.
5. 17⅜x9, ten to the hive.
6. Both.
7. Two or three for extracting the balance for comb.
8. 4¼x4¼x1 13-16.
9. I use no separators.
10. Principally white clover.
11. About 25 pounds.
12. About 30 pounds.
13. In home markets nearly always.
14. About 25 per cent.
15. About 15 per cent.
16. 14½ cents.
17. 15 cents, put up in ⅓ pint jelly glasses and sold at 9 to 10 cents each.
19. Yes, with Alsike, it is a good honey plant when not pastured too close.
20. No.
22. Italian hibrids of high grade.
23. Because they have all the good qualities of the black bee and nearly all the good qualities of the Italian.
24. In the cellar.
25. 5 to 10 per cent.
26. From the 1st to 15th of November.
27. From the 1st to 15th of April.
28. No. Never saw any.
29. No. No one has practiced spraying in my locality.
31. Do not know. Have never had over fifty colonies and have never been overstocked.
32. At county fairs by having a fine exhibit of everything pertaining to bee-keeping, including extractor glass hive containing all three kinds of bees, cages of queens, &c., with a live bee-keeper on hand all the time to explain everything pertaining to the business to the admiring crowds each day. On the speakers' stand or some other convenient place, an experienced bee-keeper should manipulate a colony of bees, explaining to the audience as he goes along. Many other things might be suggested. Am not familiar with State fairs and would not like to venture any suggestions.

L. HARRISON, PEORIA, ILL.

1. Twenty years.
2. No. Farming and trottlng stock breeder.
3. For many years; about 100.
4. Langstroth.
5. Standard L., 8 frames.
6. Comb.
8. One and two pounds.
9. Neither.
10. Spring fruit blossoms, summer white clover, sweet clover, July until frost, spanish needle and Aster in the fall.
11. About 30.
13. Home.
14. About 33 per cent.
16. Fifteen cents per pounds.
18. No.
19. With alsike, fine for honey pasture and hay.
20. Moderately in most seasons.
21. A dry, warm season, a south wind and proper electrical conditions.
22. Italian.
23. Working qualities, ability to protect themselves against moths, hardiness and moderate swarming.
24. About half and half.
25. Probably 10 per cent on an average.
26. December 1st to 15th.
27. March 15th to 30th.
28. No.
29. No.
31. One hundred.
32. Full exhibits, good quality, tastefully arranged.
33. The Honey Bee, The Agricultralist's Helper, The Horticulturist's Hand Maid.

J. SEIBOLD, HOMER, CHAMPAIGN CO., ILL.

1. 11 years.
2. No. Am a shoemaker; run a boot and shoe shop.
3. About 15.
4. Movable frame.
5. Langstroth or simplicity, 18½x9 3 8—8 and 10 frame.
6. Comb.
8. 4 1-4 x 4 1-4 x 1⅞.
9. Both. I prefer tin.
10. White clover, basswood and heartsease.
11. About 35 pounds.
13. Mostly at home.
14. 35 per cent.
16. 13 cents.
18. I think so.
19. No.
20. No, I think not.
22. Italians and hybrids.
23. Italians defend the hive best, but as workers I think there not much difference.
24. Both.
25. 25 per cent.
26. November.
27. March.
28. No.
29. No.
31. I do not know.
32. By making large and attractive displays of each and selling the same at fairs.

SAMUEL C. WARE, TOWANDA, McLEAN COUNTY, ILL.

1. About forty years.
2. Do not. Mechanical work.
3. About forty.
4. Started with box, now use L. L. frames, eight and ten to the hive.
6. Both.
7. About ⅓ and ⅔.
8. 4¼x4¼, six, seven and eight to the foot, also 4¼x5⅜, six and eight to the foot.
9. Both. Don't see any difference.
10. Fruit blossoms, white clover and fall blossoms.
11 and 12. Cannot say, keep no record. Some years between 2,000 and 3,000 pounds. Last year nothing for market, all black honey.
13. Home.

14 and 15. About 25 per cent.
16. 12½ to 15 cents.
17. 8 to 12½ cents.
18. I do not see much difference.
19. I have not.
20. They do not.
22. Blacks mostly.
24. In chaff hives on summer stands.
25. Generally about 3 per cent., this winter about 50 per cent. on account of bad honey.
28. None to my knowledge.
29. I have not.
30. No spraying done.
31. Taking in consideration the poor seasons the last three years the fewer the better.
32. By having a glorious flow of honey this season. Those who keep a few bees are discouraged and are letting their bees die.

D. W. BELLEMEY, VIENNA, ILL.

1. Forty-five.
2. No. Farming.
3. Thirty.
4. Langstroth.
6. Comb.
8. 4 1-4 x 4 1-4.
9. None.
10. White clover.
11. Cannot tell, perhaps 40 pounds.
13. At home.
14. Say 35 per cent.
16. 15 cents.
18. Don't know.
19. None.
20. Very little.
22. Blacks and hybrids; whiter comb.
24. Summer stands.
25. Loss is very small.
28. No.
29. No.
31. Too deep.

ELIAS ROBINSON, CARMI, WHITE COUNTY, ILL.

1. About twenty years, until the last two years, in box hives without any care.
2. I do not. I farm.
3. I had last year 43. I have no average.
4. Movable frame hive.
5. Frame 9¼x17⅝, ten frames each.
6. Comb honey.
7. Comb only.
8. 4¼x4¼ sec.
9. None of any kind.
10. White clover in spring, buckwheat, Spanish needle, lady finger, &c., in fall.
11. Had no test until last year when it was 35 pounds.
12. None.
13. At home.
14. Increase last year from 43 to 70.
15. None.
16. 12½ cents for comb honey.
17. None.
18. I do not know as I use none.
19. None. I have some alsike sowed.
20. Some years on red clover, big red clover.
21. In fall when the blooms are short.
22. Italians and hybrids. Italians.
23. Longer tongues and death on moths.
24. Upon the summer stands.
25. I lost none the last two years by winter.
26. I put none in cellar.
27. I have none to take out, I use some protection.
28. Not within five or six miles.
29. None that I know of.
30. I do not know.
31. I cannot tell, it depends on the pasture.
32. To have a man or woman to look after it with a separate department.
33. In bee culture as in all other business, clean work and give the bees something to work on with room to store honey.

PETER BLUNIER, ROANOKE, WOODFORD COUNTY, ILL.

1. About seven years.

2. I spend most of my time with bees in the summer as I am not able for hard work.

3. About forty colonies.

4 Movable frame.

5. 8¼x17 in. inside, eight and ten frames to the hive.

6. Mostly comb honey.

7. 90 per cent. comb, 10 per cent. extract.

8. 4¼x4¼x1⅞.

9. Use both but prefer wood.

10. White clover in summer, and fall flowers in the fall.

11. Cannot say exactly, but guess about 25 pounds.

12. Have extracted but two years, so experience is short.

13. In my neighborhood.

14. As I keep my bees from swarming all I can the increase is very small, not more than 10 per cent. for the last two years.

16. About 12 cents per pound.

17. About 10 cents per pound.

18. Have never tried without seperator with satisfaction.

19. Have sowed alsike with good results.

20. Have seen them work hard on it, but very seldom.

21. I think in warm sunny days and good heavy dews.

22. Italians.

23. They work better in poor seasons and are more quiet in handling.

24. On summer stand in chaff hives.

25. Not more than 2 per cent. since I have used the chaff hive.

28. No.

29. No.

31. As this is a poor section for bees I don't think more than fifty colonies.

32 Have had no experience.

33. Years ago this section of country was very good for bees as there is much low land full of all kinds of flowers almost the whole season. But tile and the cultivator have destroyed about all of them, and even white clover has suffered much. I think bee-keepers should try to induce farmers to sow honey-yielding plants, such as alsike, white clover, alfalfa, buckwheat, &c.

W. M. RAGON, MACOMB, McDONOUGH COUNTY, ILL.

1. Two.
2. No. Run engine, run for office, saw wood, hoe in the garden.
3. About 80.
4. Movable frame.
5. 9¼x17⅛ (I think) regular Langstroth, eight frames to hive.
6. Comb.
8. 4¼x4¼x1⅞.
9 A few wood, mostly without either.
10. White clover.
11. Kept no record, none in excess of cost of wintering.
14. About 5 per cent.
18. Don't know.
19. No. Don't know.
20. Think not.
21. Don't know.
22. Italians. Prefer Italians.
23. Don't know anything about any others.
24. Summer stands, chaff hive.
25. About 5 per cent.
26. None wintered in cellar in this county that I know of.
28. Not that I ever heard of.
29. No. No spraying done in this county.
31. All depends on pasture and the number your neighbors have.
32. Same as all other products, displaying the product in the most attractive form, glass jars, cases, &c.
33. About three or four grades for honey, regulation size for frames and sections. Better still to do away with the extractor and section nuisance; produce all honey above queen excluders in an unwired brood frame; cut out and market all honey as broken in suitable glass case or jar, and thereby shut out all chances for swindlers as well as to simplify and cheapen the production.

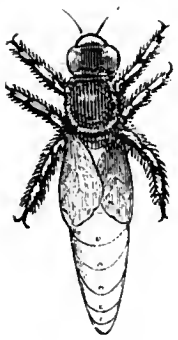
H. BRAMLET, RALEIGH, SALINE COUNTY, ILL.

1. Ten.
2. No. Farming.
3. Fifty.
4. Frame.
5. 9x17 in., ten frames.
6. Both.
7. 60 per cent. for comb, 40 per cent. for extract.
8. 4½x4¼x1⅞ at present, formerly the 1½ in width.
9. Yes, wood, formerly tin.
10. Clover and Spanish needle, sometimes astirs and heartsease.

11. 35 pounds.
12. 45 pounds.
13. At home.
14. 90 per cent. of first swarms, no after swarms nor any increase.
15. 60 per cent. of prime swarms, no increase.
16. 11 cents the last five years, 15 cents before.
17. 8⅓ cents in small amount, 7 cents in larger quantities.
18. No, not under all circumstances.
19. No, not as honey plants. Have sowed alfalfa three times. It is worthless here.
20. Yes, some seasons.
21. Too hard for me.
22. Italian and hybrid—hybrid preferred. My experience has been with black Italians and Syrians.
23. Better honey gatherers.
24. Summer stands.
25. 2 per cent.
28. No.
29. No.
31. Could not say, never have had but 65 colonies at one time, never much under 50 since the first year.
32. Can not say, never exhibit at fairs.

D. C. MILLER, EARLY DAWN, LEE COUNTY, ILL.

1. Two years.
2. No.
3. Twenty.
4. Movable frame.
5. Eight.
6. Both.
8. Boxes 8x12
9. Neither.
10. White and sweet clover.
13. None sold.
22. Hybrids and blacks are all I have.
24. In cellar.
25. This year all will starve.
26. Middle of November.
27. When it gets warm.
28. Not any.
29. No.
31. One to two hundred.



A. J. BLANKINSHIP,

MANUFACTURER OF

SIMPLICITY BEE-HIVES, SMOKERS, ETC.

ELDORADO, ILLINOIS.

DEALER IN APIARIAN SUPPLIES, BEES, QUEENS, ETC.

1. About five years.
2. I do. That and manufacturing hives.
3. About 30 colonies.
4. Movable frame hives.
5. 17⅛x9⅛, 8 frames to a hive.
6. Comb honey. No extracted.
8. 4 1-4x4 1-4x1⅞.
9. Metal on part, for market.
10. White and red clover, aster, spanish needle and heartsease.
11. I suppose about twenty pounds.
13. At home, what I sell.
14. About twenty-five per cent.
16. 12½ cents.
18. I think not. Mine do not.
19. No experience.
20. At times they do. When the blossoms are small When the clover is large they don't work on it.
21. Clover that is cut about the first of June then remains dry. The Italian bee will store honey here fast, but the black bee will make nothing for I have tested that to my own satisfaction.
22. Italian. Italian.
23. They are the best honey gathers and don't sting like the blacks, and remain on their combs when handling them.
24. Their summer stands.
25. My loss has been very small. Out of 37 colonies this winter I have lost none yet, and my bees appear to be in good fix.
28. None in this locality.
29. Never have heard of any here. I don't think there has ever been any spraying done here.
31. I never have had a chance to test that. Seventy-five or one hundred colonies is the largest amount that ever has been kept within three or four miles in this locality.
32. Neat and controlable hives without patented and unnecessary fixtures. One pound section boxes well filled and capped. This part of the state is behind in the bee business. Last year there was considerable inter-

est taken, and I think it will increase, I have been trying to work an interest in the business for the last five years and I think my efforts have been blessed. I hope that the association may be a success; I don't know as I will ever be at one of the meetings, as I am getting old, but will say that I will do all I can to get men that are going into the business to join the Association. Any information I can give you will be done at any time. Any circulars you wish to have distributed send them to me.

C. H. DIBBERN, MILAN, ILL.

1. Have kept bees for the last 27 years.
2. No. I am also engaged in hardware.
3. During the past ten years about 200 colonies.
4. Movable frames.
5. Frame 7x20 inches, 10 frames to the hives.
6. Comb honey exclusively.
8. Section 4 1-4x4 1-4x1¾ inches.
9. Both wood and tin, prefer wood.
10. Clover, linden, fruit, locust, goldenrod, etc.
11. No record, probably about 25 pounds.
13. Both, that is part is shipped to other states.
14. Losses have about balanced increase in the last ten years.
16. In last ten years 15 cents average.
18. Yes, that is my experience.
19. Have raised from 1 to 5 acres milolot, 7 years.
20. No; only a little on second crop.
22. Italians, hybrids, carniolan, yellow carn, etc.
23. Carniolan. Italian good workers; nice comb.
24. In cellar.
25. In late years about ten per cent.
26. Soon after November 1.
27. April 1, when weather is good.
28. None whatever.
29. No spraying done here.
31. At home; not over 100 spring count.

L. F. DINTELMANN, BELLEVILLE, ILL.

1. Twelve years.
2. No. Farming, nursery and fruit growing.
3. About ten.
4. Movable frame.
5. Standard Langstroth.
6. Extracted.
10. White clover and fall bloom.
12. About 20 or 25 cents.
13. Home.
15. Very little swarming.
17. Twelve cents.
19. Alsike will do, but not for honey alone.
20. Sometimes.
21. Second crop and dry weather.
22. Italian. Italian.
23. Better workers.
24. Summer stands.
25. Ten per cent.
28. I do not.
29. No.
30. None done near me.
31. Fifty or less.
32. Go and exhibit and talk and talk.
33. By reading and practicing what we preach, and preach what we practice, changing for better as we live and learn.

W. B. BLUME, NORWOOD PARK, COOK COUNTY, ILL.

1. Five years.
2. Bees and run a steam thresher.
3. Started with one and now have a hundred and one.
4. Movable frame hives.
5. 8 1-4x19, 10 frame.
6. For comb.
8. 4¼x4¼, 2 inches.
9. Have not tried either of them.
10. White clover and basswood.
11. First year 150, second 60, third 45, fourth 22, fifth 33.
13. At home.
14 Two (?).
16. 15 cents per pound.
19. No experience.

20. Don't know.
22. Italians.
23. No other tried.
24. In cellar.
25 Not any.
26. About the middle of November.
27. April 15.
28. No.
29. No.
31. Seventy-five.
32. No experience.

EDWARD B. MARGILETH, MT. CARROLL, CARROLL COUNTY, ILL.

1. Eight years.
2. No, small fruit.
3. Forty.
4. Movable frame.
5. Langstroth Simplicity frames, ten to the hive.
6. For comb honey.
8. 4¼x4¼, seven to the foot.
9. Do not use either.
10. White clover and basswood.
11 50 pounds.
13. Ship it.
14. One swarm from each colony.
16. 12½ cents per pound.
18. Never tried it, but think not.
19. My bees work good on alsike clover, both are good.
20. Sometimes.
21. Warm and dry.
22. Hybrids.
23. Cannot keep any pure.
24. In a cave made especially, plastered and cemented.
25. About 10 per cent.
26. About the 20th of November.
27. Any time in March.
28. No.
29 No, have never known of any being done.
31. 100.

C. E. YOCOM, SHERMAN, ILL.

1. Five.
2. No. Farming.
3. Probably 10.
4. Movable frames.
5. 17⅜x9⅛ outside, 10 to the hive.
6. Both.
7. I generally run for comb honey early in the season and for extracted later, using the same hives for both. Probably as much for one as the other.
8. 4 1-4x4 1-4x2.
9. Tin. Never used wood.
10. White and alsike clover.
11. Probably 25.
12. Same as No. 11.
13. Home.
14. About 150 per cent.
15. About 75 per cent.
16. About 12½ cents.
17. Absolutely 10 cents.
18. Scarcely, but what they do store is much nicer.
19. Limited with alsike. It is excellent for both nectar and grass.
20. Italians sometimes do.
21. Don't know.
22. Italians. Italians.
23. They get up early go to bed late, work some on red clover, are quiet upon lifting the frames, are almost proof against robbers and moth, gather as much honey as any (I think). Queens are easily found. Queens and bees handsome, etc.
24. Summer stands.
25. Probably 15 per cent.
28. No.
29. No.
30. None done that I know of.
31. Don't know.
32. Contrive by some means to offer premiums that will amply pay the exhibitor for his trouble. This I think is the whole secret.

THOMAS S. WALLACE, BREEDER OF ITALIAN QUEENS AND BEES, CLAYTON, ADAMS COUNTY, ILL.

1. Twenty-two.
2. I run an apiary and a farm.
3. About one hundred.
4. Movable frame hives.
5. Lang. 10x17¾, from 8 to 10 to the hive; one of my own 14x11¾, 16 to the hive.
6. For both.
7. About three-fourths for extracted honey, one-fourth for comb honey.
8. 4 1-4x4⅞x1½ inches wide.
9. I use none so far.
10. White and alsike clover.
11. I could not answer for I have kept no account.
13. At home or in neighboring towns.
14. Have kept no account.
16. About 15 cents per pound.
17. Ten cents.
18. Never tried with separators, but would think not.
19. I have had with alsike and think it very fine.
20. My bees work on red clover more or less every year.
21. I don't know.
22. I have Italians. I prefer them to any other I have seen
23. Larger, more peaceable and easier to handle.
24. In the cellar.
25. About ten per cent, and there are some weak ones.
26. Owing to the season, from the 15th of November to the 1st of December.
27. I usually take them out the 1st of March, out this spring February 10.
28. No, and I never saw any.
29. No it is not practiced in this locality.
31. I don't know. I aim to keep about one hundred colonies.
32. In the first place good liberal premiums should be awarded to induce the people to try to get their honey in as fine a shape as possible, and then it should be placed on exhibition in a suitable place where it would show to good advantage and make as attractive an appearance as possible, and then a superintendent of that department that would take great interest in showing it.

ROCKFORD, ILL., Feb. 27, 1892.

JAS. A. STONE:

Dear Sir—I will now endeavor to answer those questions I find in the American Bee Journal. I am only 15 years old.

1. One.
2. No. I work on the farm with father.
3. Twelve.
4. Movable frame hives.
6. Comb.
8. 4 1-4x4 1-4.
9. I use none.
10. Basswood and white clover.
11. Thirty pounds.
13. At home.
14. They swarmed three times each.
16. Fourteen cents.
18. I don't know.
19. No.
22. Italians I think.
24. Part in cellar and part on summer stands.
25. Twenty per cent. on summer stands.
26. About November 10.
27. I don't know.
28. No.
29 No.
31. Seventy-five.
32. I don't know.
33. It might be a good thing to put a few words in the report about the planting of basswood.

Yours truly,

JAS. E. BRECKENRIDGE.

W. J. VAUGHAN, BURNT PRAIRIE, WHITE COUNTY, ILL.

1. Twelve years.
2. No. Farming and run cider mill.
3. Fifty
4. Movable frame hives.
5. 9x13, ten to the hive.
6. For comb honey.
8. 4¼x4¼x2 inches.
9. Metal and prefer them.
10. Clover and Spanish needle.
11. Twenty-five pounds.
13. At home.
14. Twenty-five per cent.
16. Ten cents.
18. I think they will.
19. I have not.

20 No.
22. Blacks, have not tried anything else.
24. On the summer stands.
28. Not any and never have.
29. Not any.
31. One hundred.

JAS. POINDEXTER, BLOOMINGTON, ILL.

1. Thirty-five years.
2. No. Farming.
3. 200 for 15 years—100 in each of two apiaries seven miles apart.
4. Movable frame.
5. 10½x17½, eight to the hive.
6. Both.
7. 180 for comb, 20 for extracted.
8. 6x6 mostly, a few 4 1-4x4 1-4.
9. Neither.
10. Fruit blossoms, clover, linden and heartsease.
11. Have no record.
12. 75 to 100.
13. Both.
14 and 15. No increase of late except to replace winter loss.
16. 13½ cents.
17. 10 cents.
18. Have not used separators enough to justify an opinion.
19 Have had alsike but it was a failure as a honey plant for two years. White clover also failed at the same time.
20. Very surely.
22. Italian. Italian.
23. They are more industrious, especially when honey is scarce, defend the hive better, and do not store pollen and brood in the sections as much as other varieties tested.
24. Have wintered home apiary in cellar for 18 years. The other has been wintered on summer stands till three years ago, since which they have been wintered in house above ground.
25. 3 per cent. in cellar, about 10 per cent. out of doors. Will loose heavily this winter on account of honey dew.
26. From 15th to 30th of November, according to weather.
27. From March 1 to April 1, according to the weather and circumstances.
28. Do not.
29. Have not.
31. 100, though it depends upon how the locality is stocked.
32. By giving premiums on exhibits of smaller as well as larger quantities where they excel, I think would be an inducement for more to exhibit at the State Fair and other fairs as well.

J. M. HAMBAUGH, SPRING, BROWN COUNTY, ILL.

1. Ever since a boy.

2. Yes, for the last nine or ten years, though I take care of a farm of 280 acres also.

3. 150 colonies.

4. Movable frame.

5. 17⅝x4⅛ outside measure and ten to the hive.

6. Both, but principally extracted.

7. 10 per cent. for comb, 90 per cent. for extracted.

8. 4¼x4¼x1 15-16 and 5¼x6¼ x 1 15-16 or 2 inches.

9. When I use either, wood, which I prefer.

10. Clover, linden and Spanish needle.

11. Probably 20 pounds.

12. Probably 50 ponnds.

13. Both.

14. 100 per cent.

15. 8 per cent.

16. 15 cents per pound.

17. 9 cents per pound.

18. It has always seemed to me they would not.

19. Alsike clover has proven a good honey plant with me, a splendid fertilizer, and when sown with timothy it makes the best hay I have ever used. This is one of the very best plants for the combination farmer, stock raiser and bee keeper. You can never regret its culture. Try it. I have no experience with Alfalfa.

20. They do not, as a rule.

21. Second growth. Stinted by dry weather

22. Native Brown German, Italian and their crosses. Italians in their purity are my preference.

23. They seem to be better honey gatherers, more docile when being handled, less inclined to sting, guard their hives better against robbers, moth millers. etc.

24. Both. At least I have wintered twice in cellar, with comparatively no loss while in confinement, but quite a number of spring dwindled after being placed upon their summer stands.

25 In my locality I hardly think cellar wintering will pay, am not able to give comparative losses.

26. From November 15 to December 10, owing to the condition of the weather and freaks of the season.

27. This is owing to the condition of the bees and the season. If the bees show signs of dysintery, as soon as the weather will permit them to fly. If they are quiet and healthy, not till they can carry in natural pollen.

28. No.

29. No.

31. From 70 to 80 colonies.

32. By offering liberal competitive exhibits on honey and wax. Diploma on hives, fixtures, etc.

J. A. KENNEDY, PASFIELD, SANGAMON COUNTY, ILL.

1. Only a few years with the improved hives but have always had more or less bees in the old fashioned box hive.
2. No Farming.
3. About 40 for the last few years.
4. Movable frame hives.
5. The simplicity hive. Ten frames.
6. Mostly comb honey.
8. 4¼x4¼x1¾.
9. Tin separators.
10. White clover.
13. At home.
16. Cannot tell the average, never less than 10 cents and as high as 18 cents.
17. About 10 cents.
18. Never tried without.
19. Never had
20. Not to any great extent.
22. Have blacks, hybrids and Italians. Prefer Italians.
23. Think the Italians the most gentle and best honey gatherers.
24. Summer stands.
25. Guess about 10 per cent.
26. Never put any in the cellar.
28. Not any that I know of.
29. Never.
31. About 75 in my locality.

So far as the Secretary knows this report is from our oldest member (83 years old).

CHAS. HERTEL, FREEBURG, ST. CLAIR COUNTY, ILL.

1. Twelve.
2. No. Stock breeding.
3. About fifty.
4. Movable frame.
5. Simplicity.
6. Mostly extracted.
7. Ten per cent. for comb.
8. The Standard.
9. Wooden.
10. White clover, boneset and other fall flowers.
12. About 40 pounds
13. Retail it at home.
15. I try to prevent all swarming.
16. Sold but little.
17. 10 to 12½ cents ser pound.
18. No.
19. Alsike clover—yes.
20. Some years.
21. A dry summer after first crop is removed.
22. Italian.
23. Better disposition, hang to frames better, etc.
24. On summer stands.
25. Almost none.
26. No experience.
28. Not at present.
29. No.
30. After the petals of flowers had fallen.
31. Should not overstock.
33. Let some good Bee-Keeper exhibit at county fairs, and sell honey in small quantities. Also edit a column in a county paper.

GEO. E. BURNETT, HARRISBURG, ILL.

1. Twelve years.
2. No. Farming.
3. 60 colonies.
4. 10 frame S. L.
5. 10 frame S L.
6. Both.
7. ⅓ comb, ⅔ extracted.
8. 4¼x4¼x1⅞.
9. Tin.
10. Clover.
11. 38 pounds.
12. 45 pounds.
13. At home.
14. 1½ swarms per colony.
15. 1 swarm per colony.
16. 12½ cents per pound.
17. 10 cents per pound.
18. Yes.
19. Alsike is splendid. Sweet mellilot good yield but not so good quality.
20. They work on it in dearth but get little from it.
22. Italians and blacks. Italians best.
23. The Italians are active and best workers.
24. In open yard.
25. 10 per cent.
28. No.
29. No.
31. Seventy-five.
32. Don't know.
33. Repeal bounty on sugar and sell direct to consumers as far as practicable.

P. J. ENGLAND, FANCY PRAIRIE, ILL.

1. Twelve years.
2. No. Farming and fruit growing.
3. 40 colonies.
4. Movable frame hive.
5. 10 frames—frame 9⅛x17⅝.
6. Extracted honey.
10. White clover.
12. 50 pounds.
13. Home market.
15. 5 per cent.
17. 12½ cents.
20. No.
22. Italian bees.
24. Have tried both ways.
25. Twenty-five per cent. either way.
26. Immediately after the first warm day in December.
27. First of April.
28. No.
29. No.
31. I quess 100.

S. B. STRADER, BISMARK, VERMILION COUNTY, ILL.

1. I have kept bees ten years.
2. I am a blacksmith by trade.
3. 50 colonies, spring count.
4. Standard L. hive, 8 frames and two division boards.
6. Comb honey.
7. About 45 pounds comb honey.
8. Sections 4¼x4¼x1⅞.
9. Use wood separators.
10. White clover and linden.
11. My record book say twenty-five pounds.
12. Comb honey only.
13. Sell all my honey at home and in Danville, Ill.
14. My increase has been about 75 per cent.
15. No extracted honey.
16. 16⅔ cents for one pound sections.
18. My bees work in the surplus case with separators as readily as without.
19. I have not had any experience with alsike.
20. The Italian bees work on red clover.

21. The Italians work on red clover best in a dry season.
22. Italians and black bees crossed.
23. The Italians are more docile and better workers.
24. I winter in the cellar.
25. My loss is from nothing to five per cent.
26. About November 25 or when cold weather comes.
27 Say April 1st to the 10th.
28. No foul brood that I know of.
29 There are no fruit trees sprayed here.
31. 50 colonies I think are all that I can keep at a profit.
32. I have had no expetience at fairs.

R. R. MURPHY, GARDEN PLAIN, ILL.

1. Thirty years.
2. Farming and creamery.
3. About seventy.
4. Langstroth frame hive.
6. Mostly extracted for last 10 years.
8. 4 1-4x4 1-4, 7 to the foot.
9. Neither.
10. White clover and heartsease.
11. Cannot say.
12. About 125 pounds.
13. At home (Chicago).
14. But little.
15. Scarcely any.
16. 12 cents.
17. 7 cents.
18. I think not.
19. Alsike is good.
20. Some years.
21. A season when the blossoms are small.
22. Italian-Italian.
23. More gentle and better honey gatherers.
24. Have a special house.
25. About 5 per cent.
26. About middle of November.
27. About middle of March, or when winter is apparently over.
28. There was some, but it has disappeared.
29. No.
31. 100.
32. Do not know.

J. D. HARVICK, VIENNA, ILL.

1. Six years.
2. No. Farming.
3. 30 to 50.
4. Movable frame.
5. Langstroth hive.
6. For comb.
8. 4 1-4x4 1-4.
9. None.
10. White clover.
11. 40 pounds.
14. Home.
16. 15 cents.
19. No experience.
20. Some.
22. Italians.
23. They are.
24. Summer stands.
25. About 6 per cent.
28. No.
29. No.
31. 20 or 30.

G. W. WILLIAMS, MOUNT STERLING, ILL

1. Six years.
2. No. Farming.
3. From 1 to 25.
4. Movable frames.
5. 17½ long, 9¼ wide outside, 10 frams.
6. Both.
7. One ⅓ extracted, ⅔ comb.
8. Two sizes, 4 1-4x4 1-4 and 5 1-4x6 1-4.
9. Use none.
10. White clover.
11. From nothing to 40 pounds.
12. 10 to 70 pounds.
13. At home.
14. About 1⅓.
15. Very little, if any.
16. From 10 to 15 cents.
17. 9 to 10 cents.
18. I don't know.
19. I tried alsike clover one year. I believe it to be a good honey plan.

20. Yes, mostly on second crop.
21. Second crop, because the blossom cups are not so deep.
22. Blacks and Italians, prefering Italians.
23. More gentle and better workers.
24. Summer stands.
25. About 1 per cent.
26. I don't know.
27. I don't know.
28. No none.
29. No none.
31. Not over 50.
32. I can't tell. I never exhibit at fairs.
33. No suggestions.

GEORGE A. TAYLOR, MT, STERLING, ILL.

1. Twenty years.
2. No, I am a farmer.
3. About twenty.
4. Movable frame.
5. Langstroth, 9 to the hive.
6. Comb honey only.
8. One pound principally, prefer two pounds.
9. Do not use any.
10. White clover.
11. Forty pounds.
13. Home market.
14. One swarm per colony, prevent all I can.
16. Fifteen cents per pound.
19. I have. Think it will pay to cultivate the clovers, other plants not.
20. I have yet to see a bee work red clover.
22. Blacks are my preference.
23. They build nicer and straiter combs and rob less.
24. I have tried both ways, either are good under proper conditions. I prefer chaf hives to all others.
25. Cellar wintering 5 per cent., chaf hive less.
26. 15th of November.
27. 15th of April.
28. Do not.
29. No loss from that source.

To the remaining questions I have nothing to say, as that ground has been gone over thoroughly by those more competent than I.

W. C. LYMAN; DOWNER'S GROVE, ILL.

1. About ten years.
2. Bee-keeping and general farming.
3. About 30, at present 60.
4. Movable frame.
5. Standard L. 10 frame, and New Heddon.
6. Both.
7. Comb ¾, extracted ¼.
8. 4¼x4¼, seven to the foot.
9. Have used and prefer tin.
10. Clover and basswood.
11. On an average spring count about 50 pounds.
13. In home market to grocerymen. (Chicago suburban trade).
14. One swarm per hive.
15. One swarm per hive or nearly that.
16. 15 cents per pound.
17. 10 cents per pound.
18. Yes, I think so.
19. With alsike. It is excellent for hay and for honey. Buckwheat is unreliable.
20. No.
21. Have never seen red clover in condition to produce much honey for honey bees.
22. I have, and prefer the darker Italians.
23. They are bees for business, producing an excellent quality of comb honey, and are also good for producing extracted.
14. In celler.
25. Not more than 5 per cent.
26. Have put them in about November 20 on an average.
27. From 1st to 10th of April. Never left them in too long yet.
28. No.
29. No.
30. The spraying was all done after the fruit had formed.
31. Probably not more than 100 colonies, but this is quess work.
32. My experience in this line is quite limited, but what exhibits I have made have brought me my best customers.
33. The interest in bee-keeping is influenced greatly by the remuneration to be obtained from it. As a bee-keeper living within the suburban district of Chicago, my sales have been made for the greater part, directly to the retail grocerymen, and I find but few who know how to handle and sell honey to the best advantage. Since retail grocers are the ones who must present the great bulk of the honey crop to consumers, and through whose efforts the consumption of honey can be more than doubled, if they under-

stand their business, would it not be a good plan for the Illinois State Society to take some means to educate and instruct grocerymen in the best methods of keeping, handling and presenting honey to their customers in an attractive manner, so that the consumption of honey may be greatly increased. I know that grocerymen can double their trade in honey by proper means.

LUTHER F. JACOBS, VIENNA, JOHNSON COUNTY, ILL.

1. Seventeen.
2. No. I follow agriculture and horticulture.
3. 15 to 25.
4. Box.
6. Comb.
8. One pound.
9. Metal and prefer the same.
10. Flowers, wild and tame clover and fruits.
11. 20 to 24 pounds.
13. Sell at home market.
14. From two to four each year.
16. 15 to 25 cents per pound.
18. I think they will.
19. None.
20. They do not but do on white.
22. Mine were originally Italans and are preferred.
23. More domestic not so cross.
24. Upon their summer stands.
25. Hardly ever any loss.
26. We never cellar our bees, not necessary.
28. Do not understand the meaning "foul."
29. Have not, as we spray no fruit trees as yet.
31. If time to attend to them the more the better.
32. By competent committees to pass upon them and to show the profit arising from honey and produces &c.
33. Keeping moths from our hives is the only issue. They are the only detriment here in Southern Illinois to our producing honey in large quantities and at comparatively little cost. The winter's cold is not in the way. And now if some bee-raiser and honey producer will only invent a hive that will be moth proof and at the same time be a granary for the safe deposit of their sweets. Bee-keeping in this locality could be made very profitable. Can't some one produce the thing needful? (Yes movable frame hive and Italian bees—Sec.)

JACOB LEIBROCK, MASCOUTAH, ST. CLAIR COUNTY, ILL.

1. We have had bees for 40 years.
2. Since 1871 we made it one of our specialties.
3. We have had from 48 to 500.
4. Movable comb hives.
5. We use chaff simplicity and dovetailed hives.
6. We work for comb and extracted honey.
7. About 1-3 comb.
8. 4 1-4x4 1-4x2 is our section of late years.
9. We use tin separators.
10. White clover in spring, goldenrod, Spanish needle, smartweed in the fall.
11. We have had from nothing to 148 pounds.
12. We have had from nothing to 190 pounds.
13. Our main market is St. Louis, Mo.

14 and 15. We always work for honey and will therefore have very little increase in colonies.

16. 16½ cents.
17. 8 cents.
18. Some will and others won't.
19. We plant alsike clover for our bees and think it is a very good honey plant.
20. I never saw bees work on red clover as much as they did last summer, and we made a little crop of red clover honey.
21. We can only obtain red clover honey when the season is very dry so the blossoms will be very small.
22. We have different strains but prefer the Italian.
23. Italians will gather more honey in a poor season.
24. On the summer stands.
25. This winter we lost 12 per cent.
26. We never had bees in cellar.
28. We never had foul brood in our locatity.
29. We never lost any by spraying with poisons.
31. We never keep more than 73 colonies in one place if we can possibly make it.
32. We have been to the St. Louis fair with bees and honey for the last six years and we always exhibit from eight to ten thousand pounds of honey, and I think if every bee-keeper would work as much on fairs as we have done honey would be more widely introduced by this time.

J. A. GREEN, DAYTON, LASALLE COUNTY, ILL.

1. Seventeen.
2. Yes.
3. One hundred and thirty.
4. Frame.
5. I use some Langstroth frumes 9⅛x17⅝, eight to the hive, but most of my frames are 5⅝x17¾, 16 in a two story brood chamber.
6. Both.
7. Usually about half of each.
8. 4 1-4x4 1-4x1¾.
9. Both. Tin.
10. White clover, sweet clover, basswood, heartsease.
11. Forty.
12. Seventy.
13. Home as far as possible. Mostly, of course, in foreign.
14. 50 per cent.
15. 8 per cent.
16. 14 cents.
17. 8½ cents.
18. Yes.
19. No experience except a little (unprofitable) with Chapman honey plant.
20. Not very much.
21. Second crop in a dry season—small blossoms.
22. Italians.
23. Principally because they gather more honey and are more easily and cheaply handled.
24. Both.
25. Twenty per cent.
26. November 1 to 15.
27. When the season is fit, usually about the time soft maples are in bloom.
28. There is some not very far away.
29. No.
31. 150.
32. Give premiums that will make it worth while to make an exhibtt.
33. There can be no better way to increase interest than to hold pleasant and profitable, that is practical, conventions and encourage practical and comprehensive exhibits at fairs. To promote the industry disseminate information in regard to it.

JAMES D. WRIGHT, VIENNA, ILL.

1 Five years.
2. Farming.
3. Fifteen colonies.
4. Movable frame hives.
5. For comb honey.
6. 20 by 12 and 10 inches deep.
8. 4 inches.
9. Use wood, never tried metal ones.
10. For home use.
11. 20 pounds.
13. At home.
14. About 24 pounds.
15. About 24 pounds.
16. 15 cents.
17. 15 cents.
18. Do not know.
19. No.
20. Yes.
21. When it first blooms.
22. Italians and the Black bee; my preference is Italians.
23. They are the hardiest and most industrious.
24. Upon their summer stands.
25. About one-tenth part.
26. Don't. Cellar.
27. Don't. Cellar.
28. No.
29. No.
30. No.
31. Fifteen.

THOMAS C. STANLEY, PURE HONEY AND SUPPLIES, BOYLESTON, ILL.

1. Fourteen years.
2. Specialty.
3. From 100 to 1,000.
4. The Stanley hive, manufactured at Fairfield, Ill.
5. Ten frame.
6. Comb.
8. 4 1-4x4 1-4x1 15-16.
9. Tin.
10. Honey dew.
11. Fifty, I guess.

13. Wherever I get the chance, and some blamed fool has not spoiled the market by abusing honey dew honey.

14. 25 per cent.

16. 12½ cents.

18. Yes.

22. Italian.

24. On summer stands when they don't all die.

31. 200.

32. They hurt it every time. Too many in the business now. We only raised 15,000 pounds this year, and have had more trouble to dispose of it than in former years when we had 50,000 pounds.

D. J. M. PHILLIPS, BELLEVILLE, ILL.

1. Fifty years.
2. No. Farming.
3. Eight,
4. Movable frame.
5. Langstroth, 7 frames.
6. Comb.
7. None.
7. 4x4,
9. No.
10. White clover.
11. Ten pounds.
12. None.
13. Near home.
14. One.
16. Ten cents.
18. No.
19. Alsike is good.
20. All nummer.
22. Cyprian.
23. Greatest foragers.
24. Summer stands.
25. Five per cent.
26. 1st to 15th of December.
27. March 5th.
28. Not any.
29. No.
30. Not any.
32. By organizing.
33. The best way to get up an interest among bee-keepers would be to have a good lecture once a month at school house in the vicinity.

APPENDIX.

The committee appointed at the organization of the State Bee-Keepers' Association, to formulate and introduce a bill asking our State Legislature to appropriate the sum of five thousand dollars ($5,000) to carry out a creditable exhibit of the Apiarian industries of the State, at the World's Columbian Exposition, was composed of the following members as shown on page 17:

Thomas G. Newman, C. P. Dadant, Hon. J. M. Hambaugh, Col. Charles F. Mills, S. N. Black, Hon. J. S. Lyman, and A. U. Draper.

In accordance with their duties the following bill was introduced into the Lower House, March 25, 1891, read the first time, and referred to the committee on appropriations:

A BILL.

1. Be it enacted by the people of the State of Illinois, represented in the General Assembly, that there be, and is, hereby appropriated to the Illinois Bee-Keepers' Association, out of any money in the treasury not otherwise appropriated, the following sums, to-wit: For the payment of the expenses of making an exhibit of bees, honey, Apiary supplies, and appliances at the World's Columbian Exposition, to be held in Chicago in 1893, the sum of five thousand dollars, or so much of said sum as may be required to make a creditable display.

2. The Illinois Bee-Keepers' Association may, in its discretion, employ a competent person as an executive officer for service in preparatory work and care of the State Apiarian exhibit, whose powers, duties and title shall be prescriped by said Bee-Keepers' Association, and whose compensation shall be fixed by said Association, subject to the approval of the Governor. Said executive officer shall be removed at the pleasure of the Association. Any member of said Bee-Keepers' Association other than said executive officer rendering service in connection with said State exhibit by instruction of said Association, may receive as compensation therefor only necessary expenses and cost of transportation while actually employed in such services.

3. The sum of five thousand dollars ($5,000), or as much thereof as may be necessary for the purpose, is hereby appropriated to defray the cost and expenses of the work contemplated by this act, to be paid by the State

Treasurer from funds not otherwise appropriated, upon warrants drawn by the Auditor of the State, which warrants shall be drawn only upon itemized vouchers and receipted bills signed by the President of the Illinois Bee-Keepers' Association, countersigned by the Secretary thereof and approved by the Governor; and *provided, further*, that in no event shall the State of Illinois be held or become liable in any amount in excess of the sum hereby appropriated.

On April 2d this bill was reported back to the House, and was referred to the committee on World's Columbian Exposition. Here it slept the sleep that knows no waking, along with many bills of like nature, representing many interests of the State. About June 1, 1891, Hon. J. M. Hambaugh, our representative in the Legislature, addressed each member of the State Board of Agriculture with the following letter:

"DEAR SIR: I discover that no provision has been made in the Senate bill now before the House, relative to the World's Columbian Exposition, for a proper and suitable exhibit of honey, wax and apiarian supplies.

My bill, calling for an appropriation of $5,000,000 will be made an amendment to the Senate bill unless I have prompt assurance from the members of the State Board of Agriculture of a proper recognition of this industry, and for this purpose I desire an immediate answer from you, with assurance that will give this interest due consideration, and allow the bee-keepers of this State a pro rata amount, say one-half of one per cent of the gross appropriation."

Quite a number of the member of the Board of Agriculture gave assurance that bee-culture should receive liberal recognition. In order to assure the 10,000 bee-keepers of Illinois of this, we give the following extracts from their letters, sent to Mr. Hambaugh, in reply to the foregoing:

Hon. Lafayette Funk, president of the Board, writes?

"The State Board of Agriculture, if put in control of the above subject matter, will carry into effect just what you gentlemen of the legislature prescribe in the law upon the subject."

Hon. E. E. Chester, vice president for the Fifteenth District, writes:

"I can assure you (aside from the fact that I am personally interested in bee-culture) that I shall heartly approve of the appropriation of at least as much as one-half of one per cent. of the amount appropriated for the State exhibit, to be used in the interests of bees and honey."

Hon. James W. Judy, vice president for the Thirteenth District, wrote:

"As a member of the State Board of Agriculture, aud as a citizen of the State of Illinois, I am fully in sympathy with the sentiment containud in your communication. I want the bee-keepers' interest and every industry of Illinois, fairly represented at the World's Columbian Fair, and will use my best efforts for the accomplishmeut of the same."

Hon. James W. Washburn, vice president for the Twentieth District, wrote:

"I shall most willingly favor an appropriation by the Board of one-half of ons per cent. of whatever appropriation may be made, for the purposes you indicate. I am strongly in favor of encouraging the bee-industry."

Hon. B. F. Wyman, wrote as follows:

"I should certainly favor a suitable appropriation to enable the bee-keepers to make a creditable display of honey, wax and bee supplies at the Columbian Fair."

Hon. E. C. Pace expressed himself in this forcible language:

"From numerous communications that I have received, there seems to be an impression on the minds of many that the object of the State Board of Agriculture in this Columbian Exposition business was to *avoid* exhibiting the resources of the State, instead of *making*, as they desire to do, *the best possible exhibit.*

"One Interest in our State is exactly as near to them as another. They have no pet hobbies, and I can assure you with the utmost confidence, that every interest in the State will receive the consideration to which it is entitled. Any one who has given the subject of bee-culture any attention, will recognize at once its importance, and in a country like this in which I live, where it forms one of our principal products, it is unnecessary for me to assure you that the interest will be carefully nurtured, and full justice done it as well as every other interest in the State. The intention of the Board so far as I have heard an expression, is to show off the resources of the State to the very best possible advantage, and by this means to proclaim to the world what we so well know, that Illinois is the greatest State in the Union."

Hon. A. B. Hostetter, vice president for the Sixth District, wrote thus:

"I certainly favor a liberal recognition of the "bee industry," and I hope the appropriation will be made large enough so that not only this interest, but any other not especially mentioned in the bill and worthy of recognition, can have liberal encouragement and be exhibited at the World's Fair to the best possible advantage, and to the credit of our whole State."

Hon. B. Pullen, vice president, wrote thus:

"I recognize the importance of the industry referred to, and would be disposed to give it a fair and liberal recognition."

Hon. Samuel Dysart, vice president for the Seventh District, wrote:

"I have been in the bee-keeping business for 25 years, and I will certainly use all my influence to have that industry recognized in proportion to other rural pursuits."

Hon. J. Irving Pearce, vice president of the First District, wrote thus:

"I assure you that the bee-keeping industry for Illinois shall have everything done for it that the law will allow us to do. You will find me the friend and champion of that industry."

With these assurances we ought to be well satisfied that when the apportionment is made (probably next December), the bee-keeping industry of Illinois will receive its due share of the funds appropriated by the State. It will be well for bee-keepers in every district to write to their vice presidents next October, to keep it before their minds, and let them know that we are confiding in their sense of honor and justice, confirmed by the promises of many of their members, and expect our due share of the public funds, so as to be able to make an exhibit which shall be a credit to the State. as well as the entire northwest.

Notwithstanding every effort that could be made, and the pressure brought to bear by Mr. Hambaugh, our esteemed Thomas G. Newman, of the American Bee Journal, and myself, there has been nothing accomplished, and no award made us, to redeem the pledges of the State Board of Agriculture to the State Bee-Keepers.

Their plea is that the rules and regulations of the National Commission excludes manufactured articles from our State Building; and now after the long, tedious and untiring efforts of Mr. Hambaugh and others, should we be ignored by the State Board, from the category of industries, of our great State, we trust the blame will be placed where it belongs. Mr. Hambaugh has a voluminous amount of letters received, during the winter and spring, relative to the matter, and at this late date our prospects of recognition are very vague; though one more effort will probably be made.

JAMES A. STONE, *Secretary.*

NOTICE.

While our report has been in press our oldest member—J. A. Kennedy, of Pasfield, Ill.—has been called to his reward, April 7th, at the advanced age of 84 years.

Highly esteemed by all who knew him his loss is deeply felt by all in his community.

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